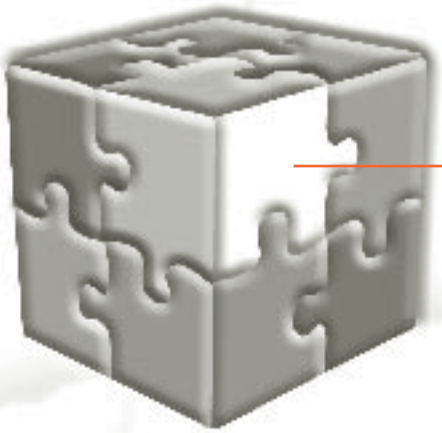
NORTH CAROLINA

Chronic Disease and Injury Section

INTEGRATION BLUEPRINT

2007-2012



ACHIEVEMENT

"Unless you try to do something beyond what you have already mastered, you will never grow."

- Ralph Waldo Emerson

ACKNOWLEDGEMENTS

The *Blueprint* Leadership Team would like to acknowledge and thank the members of the North Carolina Division of Public Health's Chronic Disease and Injury Section Integration Design Team for their dedication and commitment to developing this process and plan. Their willingness to give their time, energy and expertise represents the true spirit of teamwork. These members include: Ingrid Bou-Saada, Lori Elmore, Jim Higgins, Sara Huston, Booker Jones, Anne Lee, Jim Martin, Paris Mock, Danette Najera, Sharon Boss Nelson, Parvati Potru, Diane Price, Scott Proescholdbell, Janet Reaves, April Reese, Sharon Rhyne, Alexander White, Bob Woldman, Jennifer Woody and Elizabeth Zurick.

We would also like to recognize the following Division of Public Health staff members:

- Janet Reaves, without whom this document would not exist. Her dedication and commitment provided the synergy to motivate the entire section throughout this process.
- Special thanks is in order for section Design Team members Lori Elmore and Scott Proescholdbell for their tireless research and work on the chronic disease burden section of the Blueprint; to Jennifer Woody for her leadership in developing the orientation process and materials as well as her role in convening and facilitating matrix meetings; to April Reese for her leadership in developing the integration evaluation plan and indicators; to Sharon Boss Nelson for providing detailed editing of multiple drafts; and to Elizabeth Zurick, a Centers for Disease Control and Prevention assignee, whose global perspective was critical to considering the national environment and its local impact.
- This work would not have been possible without the support and vision of the Chronic Disease and Injury Section Chief, Dr. Marcus Plescia, who provided dedicated staff time and resources to move this project forward.
- For their expertise in editing and graphic design of the final document, the Leadership Team would like to recognize and thank Carol Schriber and Christie Adams in the Department's Office of Public Affairs.
- We would also like to recognize members of the Chronic Disease and Injury Section for testing our ideas, providing feedback and input through service on multiple ad hoc committees, and for being open-minded and engaged in the integration process.
- Finally, we would like to acknowledge the work of the Centers for Disease Control and Prevention as well as the National Association of Chronic Disease Directors for their leadership and ongoing support in paving the way for integration at the national level.

NORTH CAROLINA *BLUEPRINT* LEADERSHIP TEAM		
Sharon Boss Nelson	Janet Reaves	Elizabeth Zurick
Jennifer Woody	April Reese	

A Message from the North Carolina State Health Director

I am pleased to support and endorse the North Carolina Chronic Disease and Injury Section Integration *Blueprint*. This document is the culmination of a diverse working group of experts within the section and an extensive development process that will help our staff to work smarter and more effectively together. It includes objectives, strategies and recommendations to facilitate collective thinking in planning, implementation and evaluation of chronic disease and injury efforts.

Over the last fifty years, chronic diseases have surpassed infectious diseases as the main cause of death and disability in the United States. Chronic diseases and injury make up the top five leading causes of death in North Carolina with cancer overtaking heart disease as the number one cause of death in 2006. Many of these deaths are preventable and involve risky behaviors or lifestyles including tobacco use, alcohol or illicit drug use, physical inactivity, poor nutrition and motor vehicle crashes.

This compelling and urgent public health challenge served as a catalyst for development of the section's *Blueprint*. Ultimately, we believe that this plan will foster productive dialogue and action across the Section and the Division of Public Health supporting our work to improve health outcomes and decrease disparities.

The section has defined integration as working across programmatic boundaries in formally structured groups to reach mutual goals. Programs contribute expertise and resources while sharing accountability to meet these goals. Recognizing that not all administrative functions or programs can feasibly be integrated, and that there are various levels or degrees of integration that exist on a continuum, the goal is to work across the continuum and move toward integration only when it makes sense. The Section approached integration as a process rather than a product understanding that through improved processes, procedures and systems, we will ultimately impact population health.

I trust that the information included in the *Blueprint* will guide chronic disease and injury related initiatives not only in the Chronic Disease and Injury Section but across the North Carolina Division of Public Health. I firmly believe that the information, lessons learned and tools contained in this document will also be of use to other organizations and states embarking on the integration process.

Sincerely,

Leah Devlin, DDS, MPH
North Carolina State Health Director

A Message From the North Carolina Chronic Disease Director

Chronic diseases and injuries are responsible for approximately two-thirds of all deaths in North Carolina or about 50,000 deaths each year. Cancer, heart disease, stroke, chronic lung disease and unintentional injuries make up the top five causes of death in the state. According to a recent study, more than half of all deaths in North Carolina are preventable and involve modifiable behaviors. Recently, the growing burden of disability and mortality, increasing health care costs, and the demographics of an aging American population have begun to focus public and political attention on chronic diseases.

In order to maximize dwindling resources while also creating a sense of urgency around chronic disease and injury prevention and control issues, the North Carolina Chronic Disease and Injury Section embarked on a process to promote internal collaboration, partnership and integration. Through this 18-month learning process, the section developed an Integration *Blueprint* or plan to guide our efforts over the next five years.

The overarching goal for the *Blueprint* is to create a new organizational culture where collaboration and integration are defined as a normative priority process and expectation. This will support our work to ultimately improve health outcomes and decrease disparities by increasing state capacity for chronic disease and injury prevention and control. The plan will serve as a tool to establish priorities for the Section, support policy initiatives, maximize resources and garner new ones, and avoid duplication of effort.

I would like to commend the work of our Integration Leadership and Design Teams for their vision, perseverance and dedication to developing this process and plan. The Section is committed to carrying out the goals, objectives and priorities outlined in the *Blueprint*.

In particular, I would like to thank Janet Reaves. Janet has acted as the principle leader, writer and advocate for our Section's integration process. Without her tireless efforts, strong-willed dedication, and never-ending enthusiasm, this document would not be a reality.

It is with a great sense of pleasure and accomplishment that I announce and endorse the release of the North Carolina Chronic Disease and Injury Section Integration *Blueprint*.

Sincerely,

Marcus Plescia, MD, MPH
North Carolina Chronic Disease and Injury Section Chief

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EXECUTIVE SUMMARY

The North Carolina Division of Public Health (DPH) has a proven track record for addressing chronic disease prevention and control through collaborative efforts. North Carolina has established programs in diabetes, obesity, asthma, cancer, arthritis, kidney disease, heart disease and stroke prevention, in partnership with strong health promotion programs in physical activity, nutrition and tobacco control. These programs are housed in the Chronic Disease and Injury (CDI) Section, has along with injury and violence prevention programs, the State Center for Health Statistics, and the Office of Healthy Carolinians.

The North Carolina Chronic Disease and Injury Section Integration Blueprint was developed to identify integration priorities for the section, maximize current resources and garner additional ones, enhance credibility with external stakeholders, and avoid duplication of efforts. The Blueprint begins with an overview of the burden of chronic diseases, injury and other risk factors in North Carolina. Next is background on how the section came to explore the idea of program integration, including a discussion of leadership's participation in a national forum convened by the CDC and the national Association of Chronic Disease Directors. The state adopted the guiding principles of integration developed at this meeting:

1. Do no harm to categorical program integrity.
2. Clearly identify and state mutual benefits and opportunities.
3. Be guided by efficiency-oriented processes.
4. Be focused on health outcomes.
5. Evaluate integration outputs and health outcomes.
6. Engage stakeholders.
7. Mobilize leaders.

With these overarching ideas in mind, a team representing all programs in the section came together to discuss how the section could lay the groundwork for integration. This group created the *Blueprint* and its goals for leading the organization towards integration:

1. Develop infrastructure and build best management practices to support integration efforts.
2. Prioritize and implement integrated programs and processes using evidence-based science and best-practice models.
3. Continuously evaluate integration outputs and health outcomes.

The *Blueprint* details the specific efforts of the organization, such as core culture and communication, operations, human resources and staff development, enhancement of current information technologies to improve communication and efficiency, and standardization of administrative and operational processes. The vision for these organizational changes is to create a new culture where collaboration and integration are established norms.

The *Blueprint* identifies and prioritizes integration efforts around cross-cutting

programmatic areas that support categorical program deliverables. Priority areas were identified based on specific criteria:

- common goals and objectives
- feasibility
- community support of the initiative
- political will at the local, state and/or national levels
- magnitude of the problem or issue
- existence of evidence-based strategies to address the problem
- availability of resources to address the problem
- relevance of the problem to multiple programs

Based on these criteria, the following priority integration areas for the Chronic Disease and Injury Section have been identified:

1. development of a robust policy agenda
2. epidemiology and surveillance
3. worksite wellness interventions
4. aging issues
5. social marketing
6. collaboration with primary care providers
7. health literacy

The *Blueprint* contains a formal evaluation plan to assess the progress of the section towards integration.

The section leadership will set the tone for this *Blueprint* by promoting a culture of collaboration and integration. Resources and staff time will be dedicated to the task. Ultimately, this plan will foster productive dialogue and action across the North Carolina Chronic Disease and Injury Section and the Division of Public Health to improve health outcomes and decrease health disparities.

CHRONIC DISEASES, INJURY & RISK FACTORS IN NORTH CAROLINA

Health Burden: Chronic Diseases

Chronic diseases and injuries are responsible for approximately two-thirds of all deaths in North Carolina, or about 50,000 deaths each year.[1] Cancer, heart disease stroke, chronic lung disease and unintentional injuries make up the top five causes of death in the state. Many of the deaths are considered preventable and involve risky behaviors or lifestyles. Among the leading causes of preventable death are tobacco use, unhealthy diet/physical inactivity, alcohol misuse, motor vehicles, and illicit drug use.[2]

Table 1: 2006 N.C. Ten Leading Causes of Death: Total Deaths and Years of Life Lost

Cause	Total Deaths	Average Years of Life Lost	Total Years of Life Lost
Cancer	17,267	8.7	149,712
Heart disease	17,189	6.3	108,289
Stroke	4,551	4.7	21,492
Chronic lower respiratory diseases	4,004	4.7	18,764
Other unintentional injuries	2,425	22.7	55,038
Alzheimer's disease	2,258	0.6	1,311
Diabetes	2,230	8.5	19,007
Pneumonia & influenza	1,699	5.0	8,516
Motor vehicle injuries	1,666	35.2	58,697
Nephritis, nephrotic syndrome, nephrosis	1,631	6.0	9,805
Total Deaths – All Causes	74,419	9.7	718,587

Source: N.C. State Center for Health Statistics, Nov 2007

Cancer – An estimated 40 percent of North Carolinians will develop cancer during their lifetime. The leading cause of death in North Carolina is cancer, which resulted in more than 17,200 deaths in 2006. The state's 2001-2005 age-adjusted death rate for cancer, 197.7, was higher than the national rate of 185.8 per 100,000 population in 2004.[1,3] The leading causes of cancer deaths in 2006 were lung cancer (5,356 deaths); cancer of the colon and rectum (1,518 deaths); breast cancer

(1,252 deaths); cancer of the pancreas (1012 deaths); and prostate cancer (902 deaths).[1] More than 40,800 North Carolinians were projected to receive a cancer diagnosis in 2006, which equates to approximately 112 new cases each day. The latest cancer data reveal an age-adjusted cancer incidence rate of 482.9 cancer cases per 100,000 population in 2004.[4] The age-adjusted cancer incidence rate for males ,567.8, is higher than the rate for females, 427.7.[5] By race, the overall age-adjusted cancer incidence rates for whites (480.3) and minorities (483.5) are not significantly different.[4] However, looking at 2004 age-adjusted cancer incidence rates by race and sex reveals that minority males, with a rate of 623.3 per 100,000 population, have the highest incidence rates – 13 percent higher than white males (552.6 / 100,000) – and minority females have the lowest cancer incidence rate (395.2 / 100,000), marginally lower than that of white females (434.9 / 100,000).[6] At the same time, the cancer mortality rate among minority males is 305.5 per 100,000 – 28 percent higher than that of white males (239.5 / 100,000); and cancer mortality among minority females is 176.0 per 100,000 – 13 percent higher than that of white females (156.2 / 100,000), despite their having a significantly lower incidence rate than white women.[7]

Deaths from several cancers can be reduced if the cancer is diagnosed at an early stage. Regular breast, cervical, and colon/rectal cancer screenings have been shown to improve survival and reduce mortality for these cancers. The efficacy of Prostate-Specific Antigen, or PSA, screening for prostate cancer is still being researched, during which time the value of prostate cancer screening remains debatable. Screening rates among North Carolinians generally mirror the national averages for cancer screening rates. For example, according to the N.C. Behavioral Risk Factor and Surveillance System (BRFSS) survey, 55 percent of North Carolina adults over age 50 reported ever having had a sigmoidoscopy or colonoscopy, compared to a United States rate of 53 percent. The percentage of N.C. women age 18 and older who reported having had a Pap test for cervical cancer within the past three years was 88 percent, compared with the U.S. rate of 86 percent. The percentage of women age 40+ who reported having a mammogram within the past two years (77%) was slightly higher for North Carolina than for the U.S. as a whole (75%).[8] Racial differences in utilization of cancer screening – previously pointed to as contributory to greater cancer mortality among minorities – have attenuated in recent years, though important racial differences remain.[9]

Cardiovascular Disease – Cardiovascular disease (CVD) includes the 2nd and 3rd leading causes of death in North Carolina – heart disease and stroke – and is also a major cause of premature death and years of potential life lost (Table 1). In 2004, CVD (heart disease, stroke, atherosclerosis, and other diseases of the circulatory system) accounted for one-third (34%) of all deaths in the state.[12] Cardiovascular disease was also the leading cause of hospitalization in North Carolina in 2005, accounting for more than 164,000 hospitalizations.[10] While CVD deaths and hospitalizations do increase with age, CVD affects all age groups; nearly one in five (19%) CVD deaths and two in five (40%) CVD hospitalizations among North Carolinians occur among those younger than 65.[12]

Heart disease and stroke are two of the major types of CVD, and each result in substantial mortality, morbidity and disability among North Carolinians and Americans in general. North Carolina's

2004 age-adjusted heart disease death rate of 213.7 per 100,000 is quite similar to the national rate of 217.0 per 100,000, and the state has the 22nd-highest heart disease death rate among the 50 states.[12] Heart disease death rates in both North Carolina and the United States have been declining steadily since the early 1980s. In fact, in 2004, the N.C. coronary heart disease death rate declined below the Healthy People 2010 target. Unfortunately, coronary heart disease death rates for N.C. African Americans and American Indians remain substantially higher than the target, and further declines in the rates among those population groups are required.[12] A national study of the reasons for the declines in coronary heart disease in the country found that about half the decline was due to improvements in major risk factors (smoking, blood pressure, blood cholesterol, etc.) and about half was due to improvements in medical treatment for coronary disease.[13]

North Carolina has the one of the highest stroke death rates in the nation; the age-adjusted stroke death rate currently ranks 5th highest among the 50 states.[12] North Carolina is part of the Stroke Belt, a multi-state region in the southeastern United States that historically has had higher stroke death rates than the rest of the nation. The eastern counties of North Carolina are also part of the Buckle of the Stroke Belt – the coastal plains region of Georgia, South Carolina, and North Carolina that has consistently had the very highest stroke death rates in the nation for at least the past 30 years.[12] After a decade of little or no decline in N.C.'s stroke death rate between 1990 and 2000, these rates have been declining substantially since 2000. North Carolina's 2004 age-adjusted stroke death rate of 60.9 per 100,000 is still 22 percent higher than the U.S. rate of 50.0 per 100,000, however, and is still substantially higher than the Healthy People 2010 target of 50 per 100,000.[12] Continued decline in the stroke death rate is required to reach the Healthy People 2010 target.

There are substantial racial disparities in both stroke and heart disease death rates, with N.C. African Americans having higher stroke and heart disease death rates than N.C. whites, and also being more likely to die of these diseases at an earlier age than whites.[12]

According to the 2006 N.C. BRFSS, almost one in ten (9.3%) N.C. adults reported having a history of coronary heart disease or stroke (heart attack, other coronary heart disease, or stroke). However, despite the prevalence of CVD in North Carolina, only 19 percent of N.C. adults were able to identify all symptoms of a stroke and only 11 percent were able to identify all symptoms of a heart attack.[12] Although 88 percent of N.C. adults say they would call 9-1-1 if they thought someone was having a heart attack or stroke,[12] the low knowledge of stroke signs and symptoms may cause delays in treatment. Research shows that delays in seeking treatment for acute coronary and stroke symptoms limit effective treatment options and result in a greater likelihood of permanent disability or death.[11]

Chronic Lung Disease – Chronic lower respiratory diseases are the 4th-leading cause of death in North Carolina, accounting for more than 4,000 deaths in 2006 (Table 1). The state had a slightly

higher age-adjusted death rate due to chronic lung diseases during 2001-2005 – 46.9 per 100,000 population, compared with a rate of 41.1 nationally in 2004.[1,3] Age-adjusted chronic lung disease death rates for 2001-2005 were highest among N.C.'s non-Hispanic white (50.4) and American Indian (34.0) populations. Hispanics had the lowest age-adjusted death rates from chronic lung diseases. During 2001-2005, N.C. males had a much higher age-adjusted death rate from chronic lung diseases (61.0 per 100,000 population) than did females (38.6).[14]

Diabetes – Diabetes is a major cause of disability and death in North Carolina and the nation. With a greater prevalence of obesity and an increasing elderly population in the state, diabetes is approaching epidemic proportions. According to the BRFSS survey, the prevalence of diagnosed diabetes in North Carolina increased from 4.5 percent of the adult population in 1995 to 9.1 percent in 2006, an increase of 89 percent in the last decade. The actual prevalence may be twice as high, given that it is estimated that there is one undiagnosed case of diabetes for every case that is diagnosed. In 2005, 38.5 percent of N.C adults responding to the BRFSS survey indicated that they had never had a blood test for diabetes.[15]

In 2005, diabetes was listed as the primary cause of more than 2,200 deaths in North Carolina, a 24 percent increase in the number of deaths since 1996. North Carolina's 2001-2005 age-adjusted diabetes death rate of 27.6 per 100,000 population is slightly higher than the national 2004 rate of 24.5.[1,3] Diabetes also significantly contributes to other causes of death, such as heart disease, stroke and kidney failure. In 2005, approximately 6,000 additional North Carolinians died with diabetes mentioned on the death certificate as a contributing condition.[16]

Diabetes is the leading non-traumatic cause of lower limb amputation, kidney disease and blindness in the state. In addition, people with diabetes are two to four times more likely to have cardiovascular disease.[17] Diabetes was directly responsible for almost 16,000 hospitalizations in North Carolina in 2006, and contributed to or complicated approximately 188,000 hospitalizations. Diabetes was mentioned as a contributing condition in approximately one out of every five hospitalizations in 2005 (19%). In addition, 2006 N.C. hospital discharge data reveal that diabetes was associated with 9,700 hospitalizations involving renal dialysis or transplant, and 2,875 discharges involving lower-limb amputation.[10]

Asthma – In 2006, more than 10 percent of adults in North Carolina reported ever being told they had asthma by a health professional.[18] Of those adults, 6.8 percent reported currently having asthma.[18] Thirty percent of adults in the state with asthma were unable to work or carry out normal activity due to their asthma at least one day during the previous 12 months.[18] About 46 percent of N.C. adults with current asthma had not seen a doctor or health professional for a routine checkup for their asthma in the previous 12 months.[18] In 2006, females in North Carolina had a significantly higher hospitalization rate (158.4 per 100,000) due to asthma than did males (94.6 per 100,000).[19] The highest asthma hospitalization rates in the state occurred in the youngest age group, ages 0-4 years (298.5 per 100,000).[19] The rates steadily decreased with increasing age to 47.7 per 100,000 in the 15-34 age group and then increased to 219.1 per 100,000 in the 65+ age group.[19] About 22.5 percent of adults with

current asthma in North Carolina visited an emergency room (ER) or urgent care center in the previous 12 months. Of that 22.5 percent, 6.9 percent went three or more times. African American adults with current asthma were significantly more likely than white adults to visit an ER or urgent care center three or more times in the previous 12 months because of asthma.[18]

In 2006, 17.1 percent of children (age ≤ 17 years) in North Carolina had reportedly ever been told by a health care provider that they had asthma. Of those children, 10.8 percent reportedly still had asthma.[20] According to the 2005 National Health Interview Survey (NHIS), the national prevalence for lifetime asthma was 12.7 percent for children age 17 and younger.[21] For current asthma, the national prevalence reported in the 2005 NHIS was 8.7 percent for children. Although 2006 nationwide data are not available for this age group (≤ 17 years of age), the 2005 data that are available do suggest that the state's childhood lifetime asthma prevalence (17.8%) and current asthma prevalence (11.5%) greatly exceeded the 2005 national prevalence rates. In North Carolina, both male and female children 17 years of age and younger had lifetime and current asthma prevalence that were higher than the national prevalence.[20] Of children 17 and younger with current asthma in the state, almost half (45.5%) missed at least one day of school due to their asthma in the last year. Of that group, 32.9 percent of children with asthma missed between 1 and 9 days of school in the previous 12 months due to their asthma, and 12.6 percent of children with asthma missed 10 or more days due to their asthma.[20]

About 28 percent of children with current asthma in North Carolina visited the hospital emergency room or urgent care clinic because of their asthma in the previous 12 months. African American children were 3.83 times more likely than white children to have visited the hospital emergency room or urgent care clinic because of their asthma.[40]

Injury and Violence – Injury is a serious public health problem in North Carolina and in the nation because of its impact on health, including early death, disability and the burden on the health care system. In 2004, an estimated 123,263 years of potential life were lost to residents under the age of 65 due to fatal injuries.[22]

Leading causes of deaths from unintentional injury include motor vehicle crashes, falls, poisoning, fires and burns. Homicide and suicide are intentional injuries that make up a large number of deaths in the state. The number-one cause of death for North Carolinians aged 1 to 44 is unintentional injury. Motor vehicle collisions are the number-one cause of death for the state's youngest residents, aged 14 and under, causing 56.8 percent of deaths. An even higher percentage of deaths, 77 percent, is caused by motor vehicle collisions and occurs in adolescents aged 15 to 19. Despite the much higher numbers of deaths from chronic diseases in North Carolinians aged 65 and over, unintentional injury ranks as the 8th-leading cause of death for that age group.

Injury deaths demonstrate a significant public health problem, but to fully understand injury's health burden it is important to consider non-fatal injuries

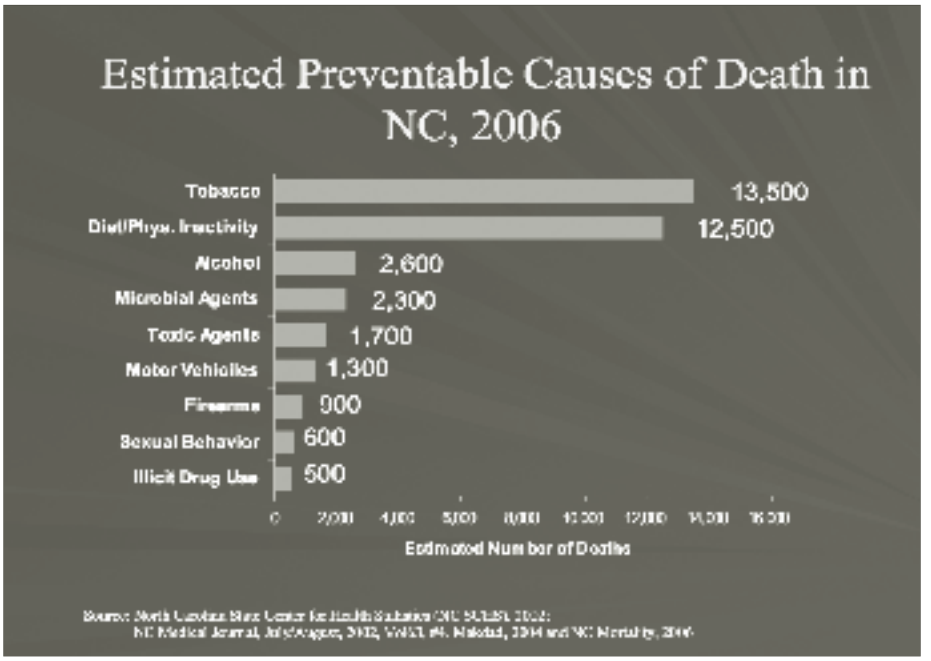
as well. Approximately 58,000 patients were admitted to N.C. hospitals due to injuries in 2003. Over 23,000 of these admissions were due to falls.[23]

Physical or sexual violence has been experienced by nearly a quarter of all N.C. women. Fifty-eight percent of women known to have experienced physical violence reported that the perpetrator was their current or former intimate partner. Twenty percent of all men in the state have experienced some type of physical or sexual abuse. Men who experienced physical abuse were 60 percent more likely than men who did not experience physical abuse to report activity limitations due to physical, mental or emotional problems.[24]

Suicide is among the top five leading causes of death among residents aged 5 through 44.[25] In 2004, 4,840 North Carolinians were admitted to the hospital for non-fatal self-inflicted injuries.[23]

Preventable Risk Factors

Figure 1. Estimated Preventable Causes of Death



More than half (53%) of all North Carolina deaths are preventable, and most of the leading causes of preventable deaths in the state involve modifiable behaviors. Among the leading causes of preventable death are tobacco use, unhealthy diet/physical inactivity, alcohol misuse, firearms, sexual behavior, motor vehicles, and illicit drug use (Figure 1).

Tobacco – Tobacco use is the leading preventable cause of death in North Carolina and the nation.[26] It accounts for one of five deaths in our state; that is more deaths than alcohol, drug abuse, car crashes, homicide, and HIV/AIDS combined. In addition to the health risks that smokers face, evidence clearly demonstrates serious health consequences related to people's exposure to secondhand smoke. It has been shown to cause lung cancer and heart disease in nonsmoking adults, and respiratory infections, chronic ear infections, and asthma in children and adolescents. Figure 1 presents information on the estimated number of preventable deaths related to tobacco in 2006.[26]

Although 53.8 percent of adults have never smoked a cigarette, current smoking prevalence continues to hover around one quarter (22.1%) of the population, or an estimated 2.1 million North Carolinians.[15] Among adults who report current cigarette use, those with less than a high school education (29.6%) smoke significantly more than college graduates (10.9%), and those who earn $25,000 or less (28.6%) smoke more than those who earn more than $50,000 (16%).[15] Males (25.3%) smoke significantly more than females (19%).15 American Indians (42.1%)

have the highest smoking prevalence rate, followed by whites (22.4%), African Americans (22.1%), and Hispanics (16.1%).[15]

Since the vast majority of tobacco use begins in adolescence, understanding the patterns of youth tobacco use is imperative in prevention initiation. Currently, 28.5 percent of high school students and 10.5 percent of middle school students use tobacco products; 20.3 percent of high school students and 5.8 percent of middle school students currently smoke cigarettes.[48] More than half of all students are regularly exposed to secondhand smoke in their homes or while in rooms or cars with people who smoke.48 Subsequently, 21.4 percent of middle and 20.4 percent of high school students who have never smoked are considered susceptible to starting smoking in the future.[48] Preventing youth initiation to tobacco use is one key to long-term success.

Physical Inactivity and Unhealthy Eating – Physical inactivity and unhealthy eating combined is the 2nd-leading preventable cause of death in North Carolina (Figure 1). Both increase the risk of heart disease, certain types of cancer, diabetes, high blood pressure, stroke, and obesity. While some of the relationship between physical inactivity, unhealthy eating and chronic disease is due to obesity, physical inactivity and unhealthy eating also affect chronic disease risk independent of obesity. For this reason, it is important for all North Carolinians to eat smart and move more. The prevalence of physical inactivity and unhealthy eating are high among both adults and children in the state. Among N.C. adults, 24 percent report no leisure-time physical activity, but only 42 percent actually engage in the recommended amount of physical activity for adults (30+ minutes of moderate activity on 5+ days of the week, or 20+ minutes of vigorous activity on 3+ days of the week).[15] Only 44 percent of N.C. high school students engage in the recommended amount of physical activity for youth (60+ minutes on 5+ days of the week), and 35 percent report watching 3 or more hours of television on an average school day.[39] In the state, nearly 80 percent of adults and 85 percent of high school students still eat less than 5 servings of fruits and vegetables each day, the minimum recommended for good health.[15,39]

Overweight/Obesity – According to the 2006 BRFSS, 63 percent of N.C. adults are overweight or obese and 24 percent report no physical activity within the previous month (Figure 2).[15] Lack of adequate physical activity and poor eating habits are widely recognized contributors to the overweight epidemic in North Carolina. The percentage of N.C. adults who are obese has more than doubled over the past decade and a half, from approximately 13 percent in 1990 to 27 percent of the population in 2006, consistently remaining slightly higher than the national average.[2]

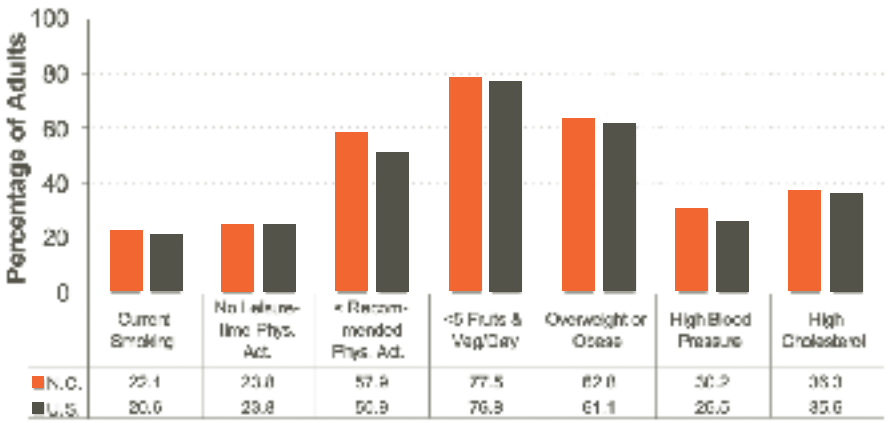
The leading causes of death in North Carolina are heart disease, cancer, and stroke – and the long-term health risks of overweight and obesity are risk factors for all these diseases. Overweight and obese individuals are at increased risk for a host of physical ailments including hypertension, type 2 diabetes, coronary heart disease, stroke, osteoarthritis, asthma, and some types of cancer.

In 2006, 13 percent of all N.C. children (age 2 -17) were overweight. An additional 15 percent were at risk of overweight.[18] North Carolina percentages for childhood overweight are among the highest in the nation. High rates of overweight may be attributed to physical inactivity and

unhealthy eating habits among youth in the state. In 2006, one-third (30.3%) of parents who were surveyed for the N.C. Child Health Assessment and Monitoring Program (CHAMP) survey reported that their child typically consumed one serving or less of vegetables per day. In addition, one in three parents (34.2%) reported that their child ate fast food two or more times per week. Sedentary lifestyles may also contribute to obesity among the state's children. According to the 2006 CHAMP survey, half (49.9%) of the parents reported that their child watched more than two hours of television on a typical day. Of these, almost one in ten (8.9%) reported that their child watched more than four hours of television a day. However, nearly two-thirds (64.4%) of parents responding to the CHAMP survey stated that they were trying to encourage more physical activity and/or limit TV/video/computer game time for their child. [18]

High Blood Pressure and High Cholesterol - High blood pressure and high cholesterol are two major risk factors for heart disease and stroke. High blood pressure is also a risk factor for kidney disease. Both high blood pressure and high cholesterol can be prevented through physical activity, healthy eating, and maintaining a healthy weight, and can be controlled to prevent poor disease outcomes through lifestyle changes and medication. North Carolina has the 8th highest high blood pressure prevalence rate among the 50 states, with nearly a third (30%) of N.C. adults reporting having high blood pressure, compared to the national rate of 26 percent (Figure 2).[12] The prevalence of high blood pressure in the state is increasing and has nearly doubled since 1993.[12] More than a third (36%) of N.C. adults have been told by a healthcare professional that they have high cholesterol, similar to the 36 percent of U.S. adults (Figure 2).[12] The prevalence of high cholesterol has been increasing steadily since 1995.[12]

Figure 2. Prevalence of Chronic Disease Risk Factors, N.C. & U.S. Adults



Phys. Act. = Physical Activity. < Recommended Phys. Act.: less than 30 minutes of moderate activity per day on 5+ days of the week, or 20+ minutes of vigorous activity per day on 3+ days of the week.
Data Source: N.C. and National Behavioral Risk Factor Surveillance System Data. All U.S. data are from 2005; all N.C. data are from 2005 except Current Smoking, No Leisure-time Phys. Act., and Overweight or Obese, which are from 2006.
Adults = ages 18+ years

Economic Burden

Chronic diseases are not only the leading causes of preventable death, but are expensive as well. The mortality, morbidity and disability caused by chronic diseases have a large economic impact in terms of both direct and indirect costs. Direct costs are those associated with hospital care, physician and nursing services, and medications. Indirect costs include lost productivity due to morbidity and mortality and are more difficult to estimate. In North Carolina, the direct medical costs related to tobacco use, physical inactivity, and poor nutrition alone are estimated to be at least $6 billion per year.[2] In 2004, tobacco use cost the state an estimated $5.4 billion in medical and productivity costs. For that same year, North Carolina's Medicaid costs attributable to smoking were estimated to be more than $769 million, or $119.73 per capita.[20]

An estimated 6 percent of the total adult population's medical expenditures are attributed to obesity. Breaking this estimate down by payer source shows that seven percent of N.C. Medicare expenditures and 11.5 percent of N.C. Medicaid expenditures are attributed to obesity ($448 million dollars and $662 million dollars, respectively, in 2003).[27] One study, based on data collected from North Carolinians with Blue Cross Blue Shield (NCBCBS) coverage, showed that people who were obese had costs 32 percent higher than their normal-weight counterparts[28]. A 2005 study estimated the annual economic costs of unhealthy lifestyles in North Carolina at $24.1 billion, with the risk factors of physical inactivity costing $9.1 billion; excess weight $9.7 billion; type 2 diabetes $3 billion; and inadequate fruit and vegetable consumption costing the state $2.4 billion. According to the researchers, the state could save billions a year if adults were to lose weight and adopt healthier lifestyles.[29]

In 2005, cancer cost North Carolina $6.1 billion – $2.15 billion in direct medical costs and $3.95 billion for lost productivity.[2] Diabetes was mentioned as a contributing condition in approximately one out of every five hospitalizations in 2005 (19%). The total hospital charges in 2006 for hospitalizations involving any diagnosis of diabetes was more than $3.6 billion. In addition, 2006 N.C. hospital discharge data reveal that diabetes was associated with over $230 million in costs involving renal dialysis or transplant and over $100 million associated with lower limb amputations.[10] In 2004, hospitalizations in North Carolina for a primary diagnosis of asthma cost nearly $89 million, an average charge of $8,259 per asthma hospitalization stay.[30] In North Carolina, total hospital charges for CVD more than doubled between 1995 and 2005, climbing from $1.8 billion to more than $4.2 billion annually.10,12 This increase was mainly driven by increases in the average charge for CVD hospitalizations, which rose from $12,887 to $25,538 per stay over the same period.[10,12] These CVD hospital charge estimates are direct hospital charges only and do not include either indirect costs or other healthcare charges. A more detailed analysis of the economic burden of stroke in North Carolina estimated conservatively that stroke costs the state $1.05 billion each year, including the direct costs of initial hospitalization, subsequent hospitalizations, inpatient and outpatient physician costs, and drug costs.[31]

The economic burden of injury and violence in North Carolina is enormous. All told, the cost of injury exceeds $27 billion per year. This number encompasses fatal and non fatal injuries' direct medical costs ($1.2 billion), work-loss costs ($6.8 billon), and quality of life costs ($19.4 billion). Breaking these numbers down shows the staggering costs associated with injury and violence. Looking only at North Carolinians aged 45 to 64, total costs from fall injuries alone were over $1 billion in 2005. For residents aged 20 to 44, death from violence, both self-inflicted and assault, cost $3.8 million in direct medical costs alone. Non-fatal injuries suffered by victims of assault add up to a cost of $625 million per year.[23, 32]

Special Populations

Older Adults

"The aging of the U.S. population is one of the major public health challenges we face in the 21st century," according to the report, *The State of Aging and Health in America 2007*.[33] In 2005, North Carolina had more than 8,600,000 residents, of whom more than a million, or approximately 12 percent of the total population, were aged 65 or older.[2] This represents an increase of 602,000 in this older group from our 1980 population, or 10 percent.[34] North Carolina's popularity as a retirement destination and the aging of the state's population have resulted in an increase in some health problems, particularly chronic diseases and injuries, with an associated rise in deaths and medical care costs for these issues.[2]

The overall health status and health practices of the state's older population are troublesome. The 2005 BRFSS revealed that 34 percent of adults aged 65 and over rated their health as poor or fair, with American Indians and African Americans disproportionately represented (29.8% and 24.1%) respectively).[35] Risk factors for those aged 65 and above include overweight or obesity (60%), smoking (9%), and no leisure time physical activity (30%).[35] According to "*The State of Aging and Health in America, 2007*" report, North Carolina ranked in the lower third (33rd of the 50th states) in addressing obesity among older adults.[33]

Currently, about 80 percent of older Americans are living with at least one chronic condition, which also exacts a large toll on older North Carolinians. The N.C. State Center for Health Statistics indicates that 45.3 percent of N.C. older adults aged 65 and over have a disability.[35] Recent trends show a 33 percent increase in the death rate from falls in older adults.[22]

Non-fatal fall injuries resulted in over 34,460 older adults being admitted to the hospital in 2005.[10] The leading causes of death in the state for the 65 and over population in 2005 were heart disease, cancer, cerebrovascular diseases (stroke), chronic respiratory disease, Alzheimer's disease, and diabetes.[12] In 2005, 59.1 percent of older adults reported having hypertension and 26.8 percent reported a history of heart disease and stroke; 19.7 percent reported having diabetes, which was the highest among all age groups and was markedly higher among minority populations; and 57.1 percent had arthritis.[35] The rate of suicide increases across the lifespan, with white males representing the greatest number of deaths. Depression, a risk factor for suicide, often co-occurs with heart disease, stroke, diabetes, asthma, arthritis and cancer.[36]

Minority Health and Health Disparities

With many health status measures being worse for minority populations than for whites both in North Carolina and nationally, the higher proportion of minorities in the state partly accounts for the relatively low national ranking of North Carolina on many health measures. A report based on N.C. mortality and BRFSS survey data indicated that, while the life expectancy at birth for the state's white population is 76.8 years, the life expectancy for minorities is 72.1 years. Minority males fare even worse – life expectancy is only 68.0 years for minority males, compared to 75.8 years for minority females.[37]

African Americans/Blacks – In 2005, 21 percent of the state's population was African American or black, compared to 12 percent of the population nationally. Among all states, North Carolina had the eighth-highest percentage of African Americans in 2005. African Americans in the state are more likely than whites to live in poverty (33%) and more likely to have no health insurance (18%).[38] Poverty and a lack of access to health care are two main reasons why North Carolina's African Americans are generally in poorer health than whites, based on mortality and disease incidence patterns. African Americans also have higher death rates from HIV/AIDS, homicide, cancer, diabetes, cerebrovascular disease and heart disease than do whites (Table 2).[16] According to the 2005 N.C. BRFSS, African Americans are less likely to smoke and binge drink compared with whites, but are more likely to be obese, have high blood pressure, be physically inactive, and have inadequate fruit and vegetable consumption.[15] The rate of obesity among African Americans (38.1%) is also significantly higher than that of whites (23.6%). Over the previous six years, mortality rates for African Americans due to asthma (30.39 deaths per million) was significantly higher than the mortality rate due to asthma for whites (11.21 deaths per million).[22]

Hispanics – According to current population survey estimates from the U.S. Census Bureau, the total Hispanic population of North Carolina was 563,160 in 2005, representing approximately seven percent of the total population.[38] Since 2000, North Carolina's Hispanic population has increased by 44 percent.[38] Seventy-three percent of North Carolina's 2005 Hispanic population is age 35 or younger, whereas only 49 percent of the state's non-Hispanic population is in this age range.[40] According to the U.S. Census Bureau's 2005 American Community Survey, the median age of the state's Hispanic population was 25.6 years, compared to 39.5 years for the white non-Hispanic population.[41] Given the younger age distribution of the Hispanic population, there are unique health issues for this group. The leading causes of death among N.C. Hispanics are consistent with the young age of the population. Fatal injuries, either intentional or unintentional, were the cause of approximately 40 percent of the state's 627 Hispanic deaths in 2005 (Table 2). Motor vehicle injuries topped the list of leading causes of death in 2005, representing 19 percent of all Hispanic deaths. Cancer (83 deaths), homicide (63 deaths), and heart disease (60 deaths) were the second, third and fourth leading

causes of death, respectively, and comprised another 33 percent of all Hispanic deaths in 2005.[1] Among North Carolina Hispanics, those who are Spanish-speaking may have elevated risks of poor health outcomes. North Carolina BRFSS data reveals that the state's Spanish-speaking Hispanics were more likely to report inadequate nutrition, physical inactivity, and a lack of health insurance compared to English-speaking Hispanics.[15] The persistence of these problems among Spanish-speakers could lead to an excess of burden of chronic disease, injury and morbidity as that population ages.[42]

American Indians – North Carolina has one of the largest American Indian populations in the country.[40] As with other minority populations, the state's American Indians are generally in poorer health than whites. During 2005, higher percentages of American Indian women than non-Hispanic white women smoked during pregnancy (25.3%) and/or had late or no prenatal care (19.2%).[43] Compared to other groups, N.C. American Indians have a higher rate of unintentional motor vehicle mortality (Table 2). Many of the poor health outcomes for this population are likely related to the fact that this group has one of the highest poverty rates (27%) of any racial group in the state and a high rate of people who are uninsured (29.8%).[15,24] North Carolina BRFSS data for 2005 reveal that American Indians were more likely than whites to report being in poor health (13.5%) and more likely to report being unable to see a doctor in the previous year due to cost (27.5%).[15]

Table 2: N.C. Mortality Rates and Risk Factor Percentages by Race/Ethnicity

	White Non-Hispanic	African American, Non-Hispanic	American Indian, Non-Hispanic	Other Races, Non-Hispanic	Latino/ Hispanic	TOTAL
Mortality Rates[1] 2001-2005						
Infant deaths per 1,000 live births[2]	6.2	15.5	10.5	5.8	6.1	8.4
Heart disease	219.7	268.7	252.2	88.6	76.2	226.8
Cerebrovascular disease	60.0	87.8	71.5	43.4	27.0	64.7
Diabetes (primary cause of death)	21.9	55.8	53.9	13.0	12.7	27.6
Diabetes (any cause of death)	83.2	173.9	158.6	45.7	42.6	27.6
Chronic lower respiratory diseases	50.4	30.8	34.0	9.6	10.2	46.9
HIV	1.4	19.8	3.9	1.4	3.0	5.2
Total cancer	191.9	233.5	165.2	95.0	84.0	
Prostate cancer	23.8	66.8	35.8	*	*	29.9
Lung cancer	60.6	59.2	53.7	23.4	19.6	59.9
Colorectal cancer	17.5	24.7	14.7	10.0	9.3	18.6
Breast cancer	23.8	34.2	23.4	9.7	11.3	26.0
Homicide	3.8	16.0	17.3	4.5	10.9	7.2
Suicide	13.8	5.5	6.1	7.3	4.4	11.6
Unintentional motor vehicle injury	18.4	19.3	38.2	13.0	28.9	19.3
Other unintentional injury	27.6	21.5	24.5	9.4	16.2	
Risk Factors[3] (percentages) 2003-2005:						
Adults with high blood pressure	28.5	39.3	35.4	17.5	10.7	28.9
Adults who smoke	23.9	23.0	34.9	20.9	17.5	23.3
Adults who are obese	22.6	36.7	33.5	14.3	22.1	25.1
Adults with no leisure time physical activity	21.7	31.4	31.3	25.6	44.3	25.3
Adults in fair/poor health	16.9	23.2	25.8	13.6	30.0	19.0

1 Except for the infant death rate, mortality rates are age-adjusted and expressed per 100,000 population. Denominators for the mortality rates (except for infant deaths) are based on the 2005 National Center for Health Statistics Bridged Population Estimate files.

2 The infant mortality data is derived from the consolidated infant death file, which matches all infant deaths to their live birth records. Figures presented here may not match those published in other reports due to the use of the matched infant death file.

3 N.C. Behavioral Risk Factor Surveillance System (BRFSS), State Center for Health Statistics. BRFSS is an ongoing, monthly telephone survey through which data are collected from randomly selected, non-institutionalized N.C. adults (age 18 and older) in households with telephones. Survey responses are weighted to represent the demographics of all adults in the state.

INTRODUCTION

The U.S. medical system has traditionally been oriented toward treating discrete, acute medical conditions. Infectious diseases are a consistent and traditional focus of the medical and public health systems because of the fear and sensationalism they create. However, over the last fifty years, chronic diseases have surpassed infectious diseases as the main cause of death and disability in the country. Recently, the growing burden of disability and mortality, increasing health care costs, and the demographics of an aging American population have begun to focus public and political attention on chronic diseases.

Despite advances in research, rising concern among public health professionals, and increased media attention, improving prevention efforts and care must remain a priority for several reasons.

There is still no sense of urgency to address the growing epidemics of chronic diseases.

The health care system is also fragmented, lacks any formal organization, and has consistently failed to be proactive in addressing future needs. Furthermore, adverse early childhood experiences (living with household members who were substance abusers, mentally ill, suicidal or imprisoned; violence against the mother; or psychological, physical or sexual abuse) increase the risk of developing unhealthy behaviors later in life such as smoking, alcoholism, depression and severe obesity.[44] Local and state public health efforts, which have traditionally focused on infectious disease control, are now shifting to strategies that target chronic diseases and injuries as well as their risk factors.

The North Carolina Division of Public Health (DPH) carries a rich history and proven track record for addressing chronic disease prevention and control through collaboration and sustained capacity at the state, regional and local levels. In many cases, North Carolina has leveraged state appropriations to address these issues and is a national leader in securing cooperative agreement funding from the Centers for Disease Control and Prevention (CDC) for the prevention and control of chronic diseases. Established programs in diabetes, obesity, asthma, cancer, arthritis, kidney disease, heart disease and stroke, and injury and violence – in partnership with strong health promotion programs in physical activity, nutrition, and tobacco prevention – operate successfully within the Chronic Disease and Injury Section (CDIS). These programs regularly interact with section staff from the State Center for Health Statistics and the Office of Healthy Carolinians and Community Assessment. This decentralized model promotes strong working relationships among

The North Carolina Division of Public Health, in the N.C. Department of Health and Human Services, houses the Chronic Disease and Injury Section.

staff members that have a long history of collaboration, coordination, capacity building, and resource sharing. An organizational chart is included in Appendix A.

The mission of the Chronic Disease and Injury Section, or CDIS, is to work in partnerships to develop healthy and safe communities and health systems to prevent and control chronic diseases and injuries across the life span. This section is charged with increasing North Carolina's public health capacity to address chronic diseases and their risk factors. These goals are achieved through appropriate policy, environmental and systems change as well as community engagement, education and training.

In recent years, the section has capitalized on multiple opportunities for enhanced efficiency through collaboration, partnering and integration, but formal processes, procedures, training and resources required to do this have not been established. Despite our efforts to work smarter, tradition and organizational culture across the section and DPH as a whole create longstanding barriers to program integration that must be recognized and addressed. Fear of the loss of identity and constituents or partners perpetuates this "silo" effect, where programs often must operate in a vacuum.

Vision for the North Carolina Chronic Disease and Injury Section

Healthy, active and safe communities where North Carolinians can live, learn, work and play

The funding shift to preparedness initiatives over the past six years has prompted chronic disease and health promotion programs to collaborate in order to maximize limited resources. At the same time, programs must also compete with one another for federal, state and private dollars while balancing the needs of their constituents and advocacy groups that support chronic disease specific initiatives. This categorical nature of funding streams from funding organizations creates barriers to true program integration. Branches in the CDIS often exist and function in silos and are limited in their ability to work across program boundaries due to the inflexibility of funding requirements or state statutes, as well as lack of resources and knowledge.

BACKGROUND

In April 2006, a leadership team from the CDIS participated in a national forum convened by the CDC and National Association of Chronic Disease Directors (NACDD) to address the plausibility of integration of chronic disease programs, as well as the challenges noted previously. Twelve states participated, and formal recommendations were published in 2007.[45] The N.C. team adopted the guiding principles set by the national partnership to frame our statewide integration initiatives.

Variability in funding streams, funder requirements, accountability, and even fiscal year timeframes make it difficult for programs to plan collaboratively and combine resources.

In order to assess integration needs and capacity and to maximize efficiency and productivity, the CDIS began to explore integration opportunities in July 2006. The 18-month integration effort culminated in the publication of this *North Carolina Chronic Disease and Injury Integration Blueprint* in January 2008. An existing matrix team, the CDIS Quality Team, which was comprised of management and non-management staff from across the section, was utilized as the key venue for exploring and mapping the integration process. Formed in the late 1990s to promote cross-program coordination and collaboration for the heart disease and stroke prevention and the diabetes branches, the Quality Team has evolved to encompass members from all chronic disease and risk factor related branches and programs in CDIS. The structured meetings include presentations on relevant cross-cutting topics such as policy, social marketing or highlights of a particular program or branch, followed by team discussion of collaborative or integrated initiatives and new opportunities. The chronic disease manager facilitates the meetings and develops formal agendas and meeting minutes, which are disseminated each month. Over the past year, most of the meetings were devoted to planning, developing, testing and evaluating the integration process and plan.

Multiple matrix teams were then appointed to develop objectives and strategies around priority administrative and programmatic processes supporting integration. Following completion of the initial draft of the plan, a multidisciplinary integration Design Team was selected, comprising all branches within the section. The team met as needed to provide input, test new ideas and review the document as it progressed. Additionally, a core set of Design Team members formed the Leadership Team, which met weekly and oversaw the entire process and plan development.

Guiding Principles for Program Integration[45]

1. *Do no harm to categorical program integrity.*
2. *Clearly identify and state mutual benefits and opportunities.*
3. *Be guided by efficiency-oriented processes.*
4. *Be focused on health outcomes.*
5. *Evaluate integration outputs and health outcomes.*
6. *Engage stakeholders.*
7. *Mobilize leaders.*

Throughout the process, the section recognized that not every intervention or initiative can or should be integrated, and so adopted the national principle of "do no harm" to categorical funding initiatives. The purpose of engaging in the integration process was to strategically position ourselves as national leaders on integration in order to maximize resources and meet shared goals.

During the planning and development phase of the *Blueprint*, key leaders noted that many staff in the CDIS were not engaged in the integration process and/or were not aware of the initiative even 12 months into the process. To assure buy-in and support for integration, the Design Team developed a staff survey to assess current awareness, beliefs, involvement and fears regarding the integration process and implementation of an integration plan. The web-based survey was administered in August 2007, and summary results were reported back to the section members in October 2007. The CDIS survey is included in Appendix B.

Approximately 75 percent of section staff and management (N = 130) responded to the survey; of those respondents, 86 percent were at least somewhat aware of the integration efforts taking place in the section. Results demonstrated that 80 percent of respondents felt that a barrier to integration is a lack of understanding of the concept. When asked about likely benefits of integration, staff most often cited increased access to internal expert resources, increased credibility with external and internal stakeholders, improved communication, and enhanced efficiency. Though management had identified additional benefits of the integration process, the section as a whole did not view as likely benefits improved staff morale and satisfaction, access to new leaders and policy makers, and additional opportunities for staff input due to shared decision-making.

The Integration Design Team is a multi-disciplinary group with representation from across the section. Here, the group reviews the latest draft of the Integration *Blueprint.* (L-R) Alex White, Sara Huston, Danette Najera, Janet Reaves, Ingrid Bou-Saada, Dee Dee Downie, Paris Mock, and Booker Jones.

Section staff cited competing programmatic priorities, funding restrictions, and fear of losing program identity as key barriers to integration. While section management was very interested in pursuing fiscal integration when feasible, survey respondents felt that this area was the least appropriate for integration. Conversely, staff and management agreed that information technology was a prime candidate for the integration process. Other areas identified as appropriate for integration included human resources, epidemiology, evaluation, partnerships, policy, health disparities, community mobilization, aging, and common settings such as faith-based initiatives.

Staff members were asked what factors would affect their current level of support for integration, and an overwhelming 43 percent stated that opportunities for additional funding for programs and having a forum for voicing questions and concerns about integration were key. Staff acknowledged many common concerns about integration, including that integration will result in more work, that it will further strain employees who are already overworked, and that there is not sufficient time allotted for implementing integrated initiatives.

In a recent survey, CDIS staff members were asked, "If we successfully integrate, what would success look like?"

- *"Everybody would be saying, 'Why didn't we start doing this years ago?'"*
- *"A section that is not continuously reinventing the wheel, and where our efforts in areas of common interest are aligned for greater impact."*

Using the results of the section survey, a core group of Design Team members developed an orientation package, including a glossary of terms and a set of frequently asked questions (appendices C and D), and began delivering the materials – along with tailored oral presentations – to each of the branches. Core staff also purchased suggestion boxes and placed them strategically in each of the three buildings where section staff members were located. These were to be used to protect anonymity and allow staff to voice concerns, raise issues or offer recommendations for the integration process and plan. To improve communication (a noted barrier) across the section, the Design Team updated and promoted a new section listserv and began exploring development of a section intranet to post and store documents and tools to facilitate integration and efficiency.

THE *BLUEPRINT*

The overarching goal for the North Carolina Chronic Disease and Injury Integration Blueprint is to create a new organizational culture, where collaboration and integration are defined as a normative priority process and expectation.

This will support our work to ultimately improve health outcomes and decrease disparities by increasing state capacity for chronic disease and injury prevention and control. The plan will serve as a tool to establish priorities for the section, support policy initiatives, maximize resources and garner new ones, and avoid duplication of effort.

The CDIS defines integration as working across programmatic boundaries in formally structured groups to reach mutual goals. Programs contribute expertise and resources while sharing accountability to meet these goals.

We also approached integration as a process rather than a product, understanding that through improved processes, procedures and systems, we will ultimately impact population health.

Working Across the Integration Continuum*

Communication	Collaboration	Partnership	Integration
We share information only when it is advantageous to either or both programs.	We work side-by-side and actively pursue opportunities to work together.	We work together with specified responsibilities to achieve common program goals.	We work across programmatic boundaries in formally structured groups to reach mutual goals. Programs contribute expertise and resources and share accountability.

*Adapted from the Florida Bureau of Chronic Disease Prevention and Health Promotion, 2006

The section leadership will set the tone for this plan by promoting a culture of collaboration and integration. Resources and staff time will be dedicated to the task, and many of the common processes and procedures will be standardized. Furthermore, communication will be a focal point to implementation of integrated initiatives, and priority initiatives will be identified.

Many ongoing COPs already exist in Public Health that could be utilized, so the section conducted an assessment of these and mapped them in a COP inventory (Appendix E). Current examples of COPs include Section Management, Quality, Epidemiology and Evaluation, and the Social Marketing Matrix teams. Section "champions" will be proposed by the management team and staff, and will coordinate the work of each new COP. Selection of these key staff members will be based on their expertise and interest in the topic area. COP champions should be influential in pushing the agenda forward for each designated group.

Recognizing that not all administrative functions or programs can feasibly be integrated and that there are various levels or degrees of integration that exist on a continuum, our goal is to work across the continuum and move toward integration only when it makes sense.

The integration Blueprint will be operationalized through existing matrix teams and the creation of new ones as priorities are determined. These "Communities of Practice"[46] (COPs) will signify the formation of groups within the CDIS that work toward a mutual goal that could not be achieved independently.

Annually, the Section Management Team will review current assets, initiatives and trends to determine priority integration areas. Through the annual management retreat and existing COPs, the team will determine priority issues that will be highlighted and addressed each year. To assure staff input and engagement, the section will hold regular "all hands" meetings with the section chief to discuss these successes and challenges. The decision-making process to determine priorities will be based on multiple criteria, including:

- common goals and objectives;
- feasibility;
- community support of the initiative;
- political will at the local, state and/or national levels;
- magnitude of the problem or issue;
- presence of evidence-based strategies to address the problem;
- availability of resources to address the problem; and
- relevance of the problem to multiple programs.

Priority integration areas for the Chronic Disease and Injury Section in years 1 and 2 include:
1. development of a robust policy agenda;
2. standardization of administrative and operational processes, templates and forms;
3. enhancement of current information technologies to improve communication and efficiency;
4. development of the public health workforce with emphasis on competencies;
5. surveillance;
6. worksite wellness promotion;
7. aging issues;
8. social marketing; and
9. health literacy.

The section management and staff are committed to carrying out the goals, objectives and priorities outlined in the *North Carolina Chronic Disease and Injury Integration Blueprint*.

NORTH CAROLINA CHRONIC DISEASE AND INJURY SECTION INTEGRATION PLAN

Overarching Goal

Create a new organizational culture where collaboration and integration are defined as a normative priority process and expectation.

Purpose Statement

The Chronic Disease and Injury Section will improve health outcomes and decrease health disparities by increasing state capacity and resources and improving efficiency through a coordinated and integrated approach. This will be evidenced by mutual planning, sharing of resources and accountability, and a focus on common issues, barriers and goals.

Goal 1: Develop infrastructure and build best management practices to support integration efforts.

Core Culture and Communication

Objective 1.1

By March 31, 2008, orient staff and management to the integration continuum, language, purpose and processes in order to engage the membership and build support.

Strategies

- Survey staff to determine current level of knowledge, awareness and engagement in the integration process and to ascertain perceived benefits and barriers.
- Develop orientation materials for the integration process, including frequently asked questions, examples, glossary of terms and a summary document.
- Individually orient each program or branch during regular staff meetings and post materials to the intranet and share drive.
- Host the first regular "all hands" meeting with the section chief to announce publication of the *Blueprint* and to continue dialogue around the integration process.

Objective 1.2

By June 30, 2008, engage the section leadership in supporting and modeling integration efforts.

Strategies

- Utilize the existing Section Management Team as a venue for prioritizing and addressing integration initiatives and progress.
- Include integration progress and new opportunities as standing items on the Section Management Team meeting agendas.
- Include section integration updates and opportunities as standing items for each branch and program team meeting agenda.
- Endorse and refer to the integration *Blueprint* regularly in communications with staff.

Objective 1.3

By June 30, 2008, develop communication channels that promote and support integration.

Strategies

- Include integration in the section mission statement and widely disseminate and post to the intranet and share drive.
- Develop an annual chronic disease integration report, disseminate and post broadly.
- Internally reward innovative integrated projects and ideas and promote these in the section and DPH media.
- Engage section staff in identifying and addressing barriers and facilitators to integration and collaboration, promoting benefits of integration in terms meaningful to the internal audiences, and utilizing naturally occurring events that lend themselves to collaboration.
- Record minutes from existing and new COPs and make them accessible to all staff on the intranet or share drive.
- Share federal and state goals and objectives annually to determine cross-cutting opportunities to partner and post these to the section intranet and share drive.
- Convene regular "all hands" meetings with the section chief as a venue for staff to share concerns, issues and success stories, and provide general feedback to the leadership team.

Objective 1.4

By June 30, 2008, develop and coordinate administrative, programmatic and evaluation processes and procedures to facilitate the integration process.

Strategies

- Standardize meeting minute templates and other frequently used forms or documents.
- Develop a section share drive and eventually an intranet for posting documents and materials and promoting staff communication (e.g., blogs).
- Conduct an annual staff satisfaction survey and review results during collaborative meetings.

Operations

Objective 1.5

By June 30, 2009, coordinate operational procedures and processes used by the section to promote efficiency.

Strategies

- Utilize the existing CDIS Operations Managers meeting as a venue for problem-solving and collaboration, and record progress and action items.
- Develop a standardized CDIS collaborative agreement template for use among programs and branches.
- Review purchasing needs of large equipment every six months during regular Operations Managers Team meetings and consider joint purchases as appropriate.
- Publish common operations-related templates that are specific to the CDIS on the intranet or share drive.
- Create a CDIS Operations Manager's Training Manual for new employees and integrate into the section's orientation package.

Objective 1.6

By June 30, 2009, develop processes and procedures to assure timely, coordinated and appropriate expenditure of all state and federal funds.

Strategies

- Adopt and train managers and staff in use of the 100 percent spending plan model.
- Monitor contracts and local health department agreement addenda monthly or more often and realign budgets as needed to assure appropriate expenditure of funds.
- Utilize the CDIS operations manager to review budgets globally and discuss with the section chief and Management Team on a monthly basis.
- Realign non-allocated funding to support collaborative and integrated projects. Develop a "wish list" of additional supplies, materials, initiatives, training, etc., that may be purchased or initiated later in the fiscal year if funds are available and can be shifted.
- Advocate collectively for improvements in administrative policies, procedures and systems that hinder the timely processing, allocation and expenditure of new funds.

Human Resources and Staff Development

Objective 1.7

By June 30, 2009, develop processes that support coordinated recruitment and hiring of a competent chronic disease and injury workforce.

Strategies

- Develop a core list of sites in addition to the state website for posting job vacancies, and maintain on the share drive and intranet.
- Share expected or actual vacancies as soon as possible with managers through the Section Management Team listserv, and post on the share drive and intranet.
- Share staffing needs as new proposals are developed and identify opportunities to share staff or resources through the COP teams as well as the listserv.
- Maintain a list of competency-based interview questions on the share drive and intranet that build off of the NACCD questions for chronic disease, injury and epidemiologic-related competencies.
- With permission, share resumes and curricula vita among management staff when vacancies occur.
- Develop or adapt a succession plan template for the section, and publish on the share drive and intranet.

Objective 1.8

By June 30, 2009, develop and implement a coordinated orientation process that promotes a culture of integration across the section.

Strategies

- Convene a diverse team representative of various position types to develop an orientation agenda, protocol and materials for the section.
- Compile materials, protocols and documents into a section orientation manual and update annually.
- Utilize the orientation manual with each new temporary or permanent employee.

- Post materials on the section intranet and share drive.

Objective 1.9

Through June 30, 2012, develop processes that support coordinated staff development and job satisfaction in order to retain and support a competent chronic disease and injury prevention and control staff.

Strategies

- Promote innovation, initiative and achievement through staff recognition or promotion when available, and use of other intrinsic rewards (i.e., conference attendance, flexibility to work in related areas of interest for career development, etc.).
- Develop a list of experienced professional and administrative staff who will serve as mentors. Match new employees with a section mentor from another branch or program.
- Establish a forum through which training resources may be shared using the intranet or share drive.
- Review all job descriptions and salaries for equity across the section at least annually.
- Assess training needs of all staff during annual performance planning.

Information Technology

Objective 1.10

By June 30, 2009, leverage the use of information technology (IT) systems and processes that significantly enhance communication and collaboration.

Strategies

- Develop a section listserv.
- Re-design the CDIS web site with updated information and links to each of the branches and programs.
- Initiate a committee to analyze, assess, and determine policy and procedures for information posted on the CDIS website.
- Utilize the DPH website to better promote the CDIS website.
- Develop and maintain a section intranet and/or share drive that is accessible to all staff.
- Post standardized templates for meeting minutes and other common forms used in CDIS to the intranet and share drive.
- Include a spreadsheet on the intranet or share drive denoting which branches or programs are funding local health departments.
- Configure the corporate calendar system on every computer in CDIS for the purpose of enhancing existing planning, and meeting and organizational efforts.
- Maintain a consolidated calendar of major section events or meetings on the intranet and/or share drive using the corporate calendar system.
- Develop and maintain a system for tracking and oversight of required staff training using the intranet and/or share drive.
- Identify and pursue other new technology options available to assure compatibility of administrative and management systems across programs and administration.
- Coordinate staff training in the use of new technologies as documented in training records.

Goal 2: Prioritize and implement integrated programs and processes using evidence-based science and best-practice models.

Each month, members of the Chronic Disease and Injury Section gather to share collaborative information and opportunities at a formal Quality Team meeting. This existing Community of Practice will be influential in implementing the Integration Blueprint.

Core Matrix Teams or Communities of Practice

Objective 2.1

By June 30, 2009, identify staff and management team members who are collaborative champions and establish a cross-section matrix of partners for use in current interventions and new funding opportunities.

Strategies

- Develop regular venues or Communities of Practice (COPs) to gather champions to address collaborative opportunities in the various program areas (i.e., health systems, operations, school health, etc.).
- Develop an activity and assets inventory of CDIS initiatives and partnerships.
- Include the function of champions and participation on COPs in individual work plans.
- Develop electronic distribution lists for champions to facilitate internal communication.
- Provide dedicated staff time and resources for collaboration and integration.
- Post COP member rosters, meeting dates and minutes on the intranet or share drive.

Objective 2.2

By March 31, 2008 and annually, identify potential areas for collaboration between programs and branches within the section.

Strategies

- Administer an activity and assets inventory to assess current programs, priorities and partners.
- Post updated activities and assets including grants, initiatives and partnerships in a central location on the intranet.
- Review the literature and most recent surveillance data to identify pressing issues.

Objective 2.3

By June 30, 2008 and annually, prioritize and document integration opportunities.

Strategies

- Utilize existing COPs including Section Management, Epidemiology and Evaluation and Quality Teams to prioritize integration initiatives. Base priorities on the key criteria outlined in the *Blueprint*.
- Share section priorities for the year during the quarterly "all hands" meetings and post on the intranet for feedback and input.

Objective 2.4

By December 31, 2008 and annually, plan, implement and evaluate integrated projects.

Strategies

- Identify champions to coordinate each initiative and chair the COPs.
- Utilize existing or convene new COPs as needed to address the priority areas.
- Formalize COPs as appropriate by developing group communication and decision-making processes, by-laws, purpose statements, action plans, and memoranda of understanding to designate program responsibilities and roles, and by documenting proceedings in meeting minutes.
- Report progress from COPs during "all hands" meetings and through an annual section integration report.
- Consider joint contracts with same partners for comparable scopes of work.
- Identify new funding opportunities that are cross-cutting.
- Plan collaboratively to develop an integrated work plan in order to acquire Public Health Prevention Specialists, Council of State and Territorial Epidemiologists (CSTE) Fellows, graduate or undergraduate students or interns, etc.
- Include integration language and opportunities for chronic disease prevention and control initiatives in the agreement addenda with local health departments and contracts with other organizations as applicable.

Priority Program Recommendations

During the 2006-2007 planning phase for the integration Blueprint, staff members identified many collaborative projects that were categorized in various stages along the integration continuum as well as multiple opportunities for future collaboration and partnering. The following recommendations represent a snapshot in time of these existing or potential program integration projects. Over the next five years, the section will utilize these recommendations and the guiding principles in setting annual priorities for program integration.

Epidemiologists and evaluators from across the Division of Public Health form the Epidemiology and Evaluation Team. They meet monthly to discuss joint projects and provide peer training. Pictured (L-R, from back row) are chair Sara Huston and team members April Reese, Scott Proescholdbell, Dee Dee Downie, Sarah McCracken Cobb, Nicole Standberry, Winston Liao, and Jennie Albright.

Epidemiology and Surveillance

Recommendation 1: Develop a mechanism to secure steady funding for surveillance.

Strategies

- Establish a study group to explore better mechanisms for funding and perpetuation of current surveillance systems, exploring possibilities such as different types of budget accounts, dedicated state funds, or special fees added to grants.
- Identify funding for a dedicated employee to analyze surveillance data and to deliver cross-cutting surveillance information to programs.
- Develop model language for programs to use when applying for grants that include funds to be used for surveillance.

Recommendation 2: Coordinate/ set priorities for the Behavioral Risk Factor Surveillance System and the Child Health Assessment and Monitoring Program survey content for the section.

Strategies

- Develop criteria for content and set priorities.
- Establish a group to evaluate and review survey plans and priorities for the section.
- Hold content specific meetings on targeted surveillance issues or areas, bringing together staff from multiple programs.

Recommendation 3: Develop an integrated mapping of North Carolina disease burden and risk factors.

Strategies

- Establish a group to examine the various regional categories used by the section and explore adoption of similar regions for mapping of disease burden and risk factors.
- Develop a health atlas or an interactive Geographic Information System (GIS) tool that allows mapping of geographic distribution of disease, risk factors and key health outcomes.
- Develop maps depicting disease burden and risk factors for the BRFSS web site.

Recommendation 4: Package data reports to include all sections and make data sources more known and accessible to all data users, especially for the CDIS.

Strategies

- Develop a repository of commonly used data sources and post on the intranet or share drive.
- Develop brief program review documents for each branch that outline the current burden of disease or risk factors, as well as program priorities and initiatives, and update these every six months. Disseminate the documents to the DPH leadership, advocacy groups, the Office of Public Affairs and staff, and use the information to respond to legislative and other requests. Post the documents on the CDIS website, the intranet and share drive.
- Develop a template for burden documents that ties into the standardized mapping of regions mentioned previously.
- Place all burden documents on the web site and intranet.
- Develop dynamic web tables for more health data, such as BRFSS, to make data more user-friendly and accessible.
- Develop an easily accessed web page that will provide a list of all useful data sources, brief descriptions, links and associated contacts.
- Compile and maintain a listing of current data-use projects to spur ideas for collaboration, and share regularly at the Epidemiology and Evaluation Team meetings.

Recommendation 5: Modify data collection techniques to ensure that multiple cultures are accurately represented and that data reporting accurately reflects the cultural diversity of the state.

Strategies

- Train local health departments to collect race data through direct questioning.
- Encourage local health departments to maintain data on patient race, ethnicity, and spoken and written language in health records and integrated into the management information system and periodically updated. These are part of the National Standards on Culturally and Linguistically Appropriate Services (CLAS) developed by the U.S. Office of Minority Health.

- Encourage local health departments and the State Center for Health Statistics to develop and/or maintain a current demographic, cultural and epidemiological profile of the county/state, as well as a needs assessment to accurately plan for and implement services that represent the cultural and linguistic characteristics of the service area.

Policy

Recommendation 6: Bi-annually, develop a broad, thorough CDIS policy agenda that advances multiple facets of the section in order to advance North Carolina's progress toward Healthy People 2010 and future 2020 objectives for chronic disease and injury prevention and control.

Strategies

- Hold semi-annual training workshops on policy for section leadership during Section Management Team meetings, including broad information on the legislative process, avenues of policy change, and the difference between substantive and appropriations legislation and the short and long session in the N.C. General Assembly.
- Review the policy outcomes from the previous year as well as implementation plans for successful policies with internal and external partners, and reassess priorities and strategy for policy outcomes that failed.
- Involve key informants and external stakeholders in collecting ideas for a section-wide policy agenda, and work within CDIS to prioritize items as a group during the annual section retreat.

- Analyze relevant portions of evidenced-based policy guides, including the Community Guide for Preventive Services, to identify proven and promising policy practices and integrate into draft section policy agenda.
- Identify existing priorities of state leadership, including those of the Secretary, the State Health Director, and the section chief and acknowledge the influence that these priorities may have on the section policy agenda.
- Share the section policy agenda with the DPH leadership; build support across the N. C. Department of Health and Human Services and outside the organization to garner support for the agenda and identify opportunities to collaborate with partners on issues.
- Share the policy agenda annually with external partners, including the N.C. Association of Local Health Directors, and build support for a shared policy agenda.
- Provide regular policy platform updates at the Section Management Team meetings in order to gain active and strategic support of stakeholders.
- Explore options to disseminate the policy agenda to section partners through the CDIS website, intranet, "all hands" meetings or other venues.
- Provide requested educational information to partners for use at the General Assembly and stay abreast of policy progress in the legislative process.

- Identify and mobilize resources for successful implementation and evaluation of CDIS priority policies passed by the N.C. General Assembly and other government or private decision makers.

Community Health Assessment (CHA)

Recommendation 7: Create a system that will provide local CHA findings and community priorities to state programs that can be utilized in integrated program planning, grant development, research, budget formulation, and identifying community partners.

Strategies

- Establish a COP to develop, test, and implement the system to disseminate CHA findings and community priorities to state-level programs.
- Utilize the COP to assure that CHA addresses the priorities and needs of programs in the section.
- Provide training at the state level to inform public health programs about the CHA process.
- Survey division programs to determine interest in CHA findings and priorities.
- Develop a plan to assure that technology support is available to assist in the dissemination of CHA findings.
- Create a communication system to support integrated CHA.

Recommendation 8: Develop a sustainability plan for CHA.

Strategies

- Identify resources within DPH that will support state integration of CHA.
- Develop a plan for state funding to support CHA at the local level.

Recommendation 9: Enhance the current State Center for Health Statistics website to support CHA at the county level.

Strategies

- Create county profile reports with major health indicators.
- Link county data to the N.C. 2010 health objectives.
- Incorporate data from county profiles into a web GIS system that will populate the N.C. Health Atlas.

Aging Initiatives

Recommendation 10: Nurture new and expand existing public and private partnerships to implement strategies for a coordinated and systematic healthy aging initiative to address issues related to physical activity, nutrition, and the prevention, delay and management of chronic diseases and injury in populations 60 and older.

Strategies

- Educate divisions, branches, and other partners on the memorandum of agreement (MOA) established between DPH and the Division of Aging and Adult Services (DAAS) to ensure understanding of the role of each entity and their collaboration on shared aging and chronic disease and injury initiatives.
- Formalize the integrated Aging Work Group, consisting of at least the University of North Carolina at Chapel Hill (UNC-CH) Institute on Aging (IOA), DAAS and DPH as well as an Injury Branch representative, as older-adult champions.
- Actively participate in the quarterly meetings of the N.C. Healthy Aging Coalition.
- Continue to enhance the relationship with the UNC-CH IOA and incorporate the organization into the existing MOA between the Divisions of Public Health and Aging.
- Identify the evidence-based programs and initiatives individual branches have developed/could develop to address the aging population(s), including opportunities and barriers to implementation as well as lessons learned.
- Continue initiatives with the IOA and DAAS, such as the Falls Coalition and work related to two existing collaborative grants (the Roadmap for Healthy Aging or SENIOR grant and the Chronic Disease Self-Management Empowerment grant).

Recommendation 11: Incorporate aging considerations into all appropriate CDIS branches.

Strategies

- Define for all branches what constitutes the older adult population (i.e., 60 years and older) and disseminate the N.C. Aging Services Plan for 2007-2011 and related data to call attention to the unique challenges that will be presented by this population over the next decade.
- Continue work on the SENIOR grant to complete the Roadmap for Healthy Aging, widely disseminate the resulting report, and encourage utilization of assets-mapping of data and program information.
- Identify a methodology by which all branches can be routinely apprised of the most recent state and national chronic disease and aging data.
- Identify existing evidence-based programs and/or best practices within each branch or program that are appropriate for older adults, and provide a written critique on these programs whether implemented or not.
- Develop recommendations based on the critiques to further integrate aging across the CDIS. Specific strategies should be considered for addressing osteoporosis, falls, injury from elder abuse, and end-of-life issues or palliative care.

- Encourage inclusion of aging proponents on respective advisory boards that work with the CDIS.

Recommendation 12: Implement evidence-based health promotion interventions focused on the older adult population, in collaboration with state partners.

Strategies

- Implement Stanford's Chronic Disease Self Management Program (CDSMP), in collaboration with the DAAS in three (3) geographic areas (includes seven Area Agencies on Aging). Emphasis will be placed on individuals with a chronic disease and/or their caregivers, as well as minorities and/or rural older adults with low income.
- Ensure monitoring and evaluation components are in place for CDSMP and other interventions.
- Continue working across programs in arthritis, diabetes, and heart disease and stroke to share resources and expertise in implementing this project.

Recommendation 13: Secure funding to sustain evidenced-based and/or best practice programs for North Carolina's older adult population.

Strategies

- Enter into discussions with public and private partners such as Community Care of North Carolina, the North Carolina State Health Plan, private health plans and others on committing resources (monetary and/or staff) to the expansion of the CDSMP and related programs across the state
- Seek other funding opportunities that address the older adult population, including private foundations as well as state and federal funding.

Health Disparities

Recommendation 14: Develop and integrate a set of behaviors, attributes and policies within the CDIS that enable staff to work effectively in cross-cultural situations.

Strategies

- The section management will develop and implement a plan to ensure recruitment and retention of diverse staff in terms of race, ethnicity, gender, disabilities and age.
- Promote intense training for managers and supervisors related to the Equal Employment Opportunity Commission (EEOC), cultural diversity and sensitivity, etc.
- Include eliminating health disparities as an objective in individual staff work plans.
- Maintain the Diversity Workgroup initially convened in 2006.
- Use existing infrastructure (Human Resources, Budget/Finance) for recruitment of diverse applicants.
- When appropriate, include eliminating disparities in the scope of work for contractors.
- Use common language among all branch contracts, work plans, MOAs, etc., to eliminate health disparities.

- Conduct regular cultural competency training for all CDIS staff.

Recommendation 15: Explore opportunities to incorporate cultural knowledge into policy-making processes, core infrastructure and daily practice.

Strategies

- Review, revise and, if needed, create health disparity objectives in the strategic plans and surveillance documents for all branches and programs.
- Identify common strategies in working with underserved populations.
- Create opportunities for sharing health disparity challenges and successes:
  - Identify common cross-cultural barriers and brainstorm for effective solutions to eliminate the barriers, and
  - Ensure that programs serving similar populations share strategies, initiatives and resources.
- Design and implement services that are tailored to the unique needs of the populations being served.
- Ensure that practices are driven by client-preferred choices.
- Encourage collaboration with community stakeholders in efforts to reduce health disparities.
- Encourage local health departments to develop a plan to ensure that clients receive effective, understandable, and respectful care that is provided in a manner compatible with cultural health beliefs and practices and in their preferred language.

- Conduct a bi-annual assessment of the section's activity targeting health disparities.

Health Literacy

Recommendation 16: Utilize recommendations from the N.C. Institute of Medicine Health Literacy Task Force to develop CDIS and local capacity and infrastructure regarding low health literacy.

Strategies

- Assess CDIS health literacy competencies.
- Identify and/or train a section champion who is competent to teach and promote health literacy skills.
- Develop and/or identify training opportunities for CDIS and local health department staff to assure competency in health literacy skills and strategies.
- Ensure that there is at least one health educator in each health department who is competent to teach health literacy skills and strategies and is responsible for disseminating this information to other health department staff and local providers of care.
- Include health literacy information in the section Orientation Manual.
- Post task force recommendations on the intranet and in highly visible locations on the DPH campus.

Recommendation 17: Utilize recommendations from the N.C. Institute of Medicine Health Literacy Task Force to improve health care communications with the public and health care providers.

Strategies

- Develop or adopt standardized guidelines and criteria to assure that public education and awareness materials are produced at an appropriate level for the targeted audience.
- Refine existing review processes to ensure that materials are understandable for the targeted audience prior to use. This could include development of a materials review panel.
- Expand existing public education and outreach campaigns to encourage consumers to ask questions and more actively participate in their own care.
- Assure the use of health literacy strategies in early identification or disease management initiatives.
- Expand the use of trained lay health advisors, patient navigators and trusted community sites (barber shops, churches, etc.) to disseminate health information and to prepare patients and their families for provider-patient interactions.
- Identify and pilot new integrated models of care or communication strategies to improve health outcomes for people with low health literacy skills.

Social Marketing

Recommendation 18: Provide available easily understood consumer-related materials in the languages and at the appropriate literacy level of the commonly encountered groups represented in the service area.

Strategies

- Create or adopt/adapt existing guidelines or criteria for the development of consumer-related educational materials and messages. Refer to the existing CLAS standards.
- Reinforce the expectation that patient-related materials meet these criteria through statements from the Section Management Team and through inclusion in staff work plans.
- Identify information, attitude and skill needs of section staff for training related to materials and message development.
- Develop and implement a series of targeted trainings to meet these identified staff needs.
- Utilize consultation and technical assistance from the DPH social marketing consultant and from the Social Marketing Matrix Team.
- Utilize PRIZM market segmentation system data to select appropriate channels for distribution.
- Use best-practice resources such as recommendations from the N.C. Institute of Medicine Task Force on Health Literacy, CDCynergy-Basic, CDC's Simply Put, and the National Cancer Institute's *Making Health Communication Programs Work*.

Recommendation 19: Increase the capacity of section programs to use social marketing as an approach to program planning.

Strategies

- Reinforce the view that social marketing is a beneficial approach for program planning.
- Identify information, attitude and skill needs of section staff for training.
- Develop and implement a series of targeted trainings to meet these identified needs.
- Utilize consultation and technical assistance from the DPH social marketing consultant and from the Social Marketing Matrix Team.
- Develop an internal expert group from section staff using social marketing.
- Utilize PRIZM data for program planning and implementation.
- Utilize best-practice resources such as CDCynergy-Soc., Version 2; materials from the Social Marketing National Excellence Collaborative; CDC; and the Academy for Educational Development.

Common Settings

Recommendation 20: Promote integration of efforts in targeted settings including faith-based organizations, health systems, schools and worksites when appropriate.

Faith-Based Settings

Recommendation 21: Increase the capacity of faith communities to adopt policy and environmental changes supportive of health promotion and chronic disease and injury prevention and control practices.

Strategies

- Conduct key informant interviews to determine health-related opinions, needs and concerns of faith communities.
- Develop and implement an integrated plan among all CDIS programs for collecting and disseminating culturally appropriate model policies and practices supportive of chronic disease prevention and control.

Recommendation 22: Maintain ongoing communication with faith leaders representative of denominational memberships across the state.

Strategies

- Identify key leaders able to serve as part of a communication network with the CDIS Faith Initiatives Team.
- Identify best methods for assuring effective and efficient cross-communication with identified faith networks.

Recommendation 23: Engage key faith leaders in planning initiatives to reduce the burden of chronic disease and injury.

Strategies

- Increase the number of representative faith leaders participating on CDIS advisory, planning, and task force groups.
- Engage representatives of groups in planning best methods for providing supportive information, training, and resources to meet identified needs.

Worksite Settings

Recommendation 24: Plan, obtain new or enhanced funding, and collaboratively implement worksite wellness programs with various employers across the state promoting systems-level changes.

Strategies

- Develop a worksite wellness COP representing each relevant program in the section.
- Develop and disseminate worksite wellness resources and tools that include policy and environmental change strategies for all sizes and types of worksites. Utilize and expand the CDIS/State Health Plan Health Smart Worksite toolkit and focus on state agencies, public universities, community colleges and public schools.
- Collaboratively plan and implement a comprehensive worksite wellness and chronic disease control program symposium targeting employers across the state.
- Create social marketing strategies that promote wellness at work.
- Replicate promising practices, including the "Asheville project," that have evaluation data showing improved health outcomes and reduced healthcare costs to worksites.
- Partner with the N.C. State Health Plan to form a network of employee wellness committees in state agencies, universities, and community colleges.
- Engage outside business partners to support and promote worksite wellness programs.
- Establish baseline data on workplace wellness programs and employee involvement.

School Settings

Recommendation 25: Further develop capacity for school initiatives across all programs in the section.

Strategies

- Communicate school-based initiatives with all programs on a regular basis at Quality Team meetings (annually or more often as requested).
- Establish a contact person on school initiatives who maintains a distribution list of CDIS school initiative contacts.
- Establish a distribution list of all CDIS contacts that have school initiatives.
- Identify a contact person from each program to participate monthly in the school matrix team.
- Invite the School Health Unit to attend Quality Team meetings annually or more often for sharing.

- Meet with the School Health Unit to discuss opportunities for sharing school initiative activities in DPH.

Recommendation 26: Explore opportunities to partner and integrate with the Department of Public Instruction (DPI) and within branches or programs across DPH.

Strategies

- Integrate CDIS programs into the next round of CDC Healthy Schools Funding.
- Integrate CDIS school initiatives into future chronic disease conferences.

Health System Settings

Recommendation 27: Utilize Improving Performance in Practice (IPIP), the Governor's Quality Initiative (GQI) and stakeholders as a venue for chronic disease quality improvement in the primary care setting. This will be evidenced by improvements in targeted indicators for asthma, diabetes, hypertension, chronic kidney disease, cancer screening and prevention, and changes in the systems of care among these practices.

Strategies

- Continue to plan collaboratively among CDIS programs for joint contracts and agreements with external partners using the "Lead Team" concept.
- Participate on committees of IPIP and the GQI and report back to the Lead Team.

- Develop a new logic model and configuration to evaluate system changes in primary care health settings and at the state level that improve quality of chronic disease and injury prevention and care.
- Assimilate data from the system and provider registries/reports that include outcomes in the annual chronic disease and injury report and regular surveillance updates.

Recommendation 28: Collaboratively partner with physician and other specialty groups, professional associations, and systems to increase reach to primary care providers and impact chronic disease indicators and risk factors. Key partners will include the N.C. Academy of Family Physicians and the Division of Medical Assistance, as well as Community Care of North Carolina.

Strategies

- Convene regular meetings with the Academy and the existing Division of Medical Assistance Quality Team, and identify other venues to mutually plan initiatives targeting primary care providers.
- Develop formal MOAs to delineate roles and responsibilities of partners.

- Provide continuing medical education to primary care providers regarding chronic disease prevention and control through annual meetings, seminars, workshops, etc., in collaboration with the key partners.
- Identify, adapt and or develop collective tools to support quality improvement for chronic disease and injury in the health care setting.

Community Settings

Recommendation 29: Develop and implement a plan to facilitate integrated community mobilization into section programs and branches that work with community coalitions and local health departments.

Strategies

- Identify and disseminate an inventory of existing community health and service-related coalitions, community work groups, and local health departments serving as regional leads within CDIS.
- Analyze the partnerships to determine which are already integrated (a part of Healthy Carolinians or work in conjunction with other community coalitions).
- Develop a plan to introduce integration to community coalitions and partnerships that are not integrated (e.g., make the community group a part of the community assessment process and community health improvement planning process).
- Support collaboration between local health and service-related coalitions through integrated practices at the state level. This will be achieved by incorporating integrated community mobilization into grants, program goals and objectives, and requests for proposals that are issued to community organizations and local health departments. Assure that all new grants to federal government and to foundations include integrated community mobilization if there is a community component in the proposal.
- Identify resources with CDIS program funds and grant initiatives to support coalition building, community mobilization, and inter-coalition collaboration.
- Assure that all funding/grants awarded by CDIS to community programs and local health departments have integrated community mobilization if the program has a community component.
- Provide joint training and technical assistance to community coalitions to facilitate integration with other groups.

Translational Research

For purposes of the *Blueprint*, the section defines translational research as the process of applying ideas, insights and discoveries generated through basic scientific inquiry to the treatment or prevention of disease or injury.

Recommendation 30: Address the current science base for chronic disease and injury prevention and control and apply the research to targeted high-risk populations in North Carolina.

Strategies

- Utilize existing COPs as venues to present cutting-edge topics and issues from the scientific literature. Identify and secure content experts as speakers.
- Through existing COPs, work across programs to translate the science related to common risk factors, populations, partners and service delivery settings. Use the information for planning and to prepare collaborative abstracts, presentations and manuscripts.
- Post related information and journal articles on the section intranet or share drive.
- Identify funding opportunities to apply the scientific research in North Carolina.

Program Integration Example
The Chronic Disease Management Collaborative

This made sense and was feasible: Three separate branches were charged with improving health care systems to impact chronic disease outcomes at the population level. Pooling resources and expertise allowed the branches to accomplish more than they could have separately.

Mutual Goal and Target Population: Branches shared mutual goals to change health systems – the way in which care is delivered – in primary-care practices to improve chronic disease indicators for similar high-risk populations.

Collaborating Branches/Programs: Participating branches included Diabetes Prevention and Control, Heart Disease and Stroke Prevention, and Cancer Prevention and Control.

Shared Expertise and Roles: The formal structural governing body for the project was the "Lead Team," which comprised members from each participating branch, program and organization. This team served as the Community of Practice where decisions were made by consensus and policies and procedures were developed for dissemination and publication of information. The principal investigator (CDI chronic disease manager) served as the integration champion and facilitated the Lead Team meetings. Lead Team members shared responsibilities for implementing the project by serving as faculty for quarterly trainings and monthly conference calls and as consultants in their respective areas of expertise.

Shared Resources: Each branch/program contributed substantial financial resources to fund two joint contracts for the project.

Shared Accountability: Branches/programs were each responsible to their CDC categorical programs for reaching positive outcomes through this initiative. Branches were heavily invested in the project through their contribution of financial resources and staff time. Additionally, the branches/programs developed and maintained a formal Memorandum of Agreement with external partners, which clearly stated roles and responsibilities of each partner.

CDC Requirements/Goals for Each Branch: The initiative aligned with the CDC requirements and goals for each participating branch.

Outcomes: In 2007, data for over 5,000 patients was being tracked in chronic disease registries (clinical information systems) for participating practices. Improvements were noted in 70 percent of targeted indicators for cancer screening, diabetes and cardiovascular disease.

Efficiency Demonstrated: Combined contracts saved time and required only one program staff member in the section to develop and monitor. The section also gained credibility with partners and providers by presenting one consolidated quality improvement process that could be applied to multiple chronic diseases or risk factors.

NORTH CAROLINA CHRONIC DISEASE AND INJURY SECTION INTEGRATION EVALUATION PLAN

The CDIS *Blueprint* is a comprehensive document designed to guide the work of the CDIS over the next five years. The Integration Design Team is the driving force behind the plan. The Design Team includes representation from all branches and programs within CDIS. Many of the members were also included in the initial writing groups that drafted the original integration plan. The evaluation plan for integration utilizes the six-step framework developed by the CDC. The six steps – engage stakeholders, describe the program, focus the evaluation design, gather credible evidence, justify conclusions, and ensure sharing of lessons learned – are outlined below.

Goal 3: Continuously evaluate integration outputs and health outcomes.

Step 1: Engage Stakeholders

The Integration Design Team, in concert with CDIS Management Team, organized writing groups to flesh out the integration plan without adequately engaging a diverse cross-section of staff. To address this need, the Design Team developed a survey (Appendix B) to determine staff knowledge and attitudes about integration as well as the level of engagement in the process. The survey was completed by most of the CDIS staff; results were profiled previously in this document. The survey served as a baseline for knowledge and attitudes about integration. The survey also resulted in development of a Frequently Asked Questions document (Appendix D) that was distributed to all staff at individual program and branch staff meetings by one or more members of the Integration Design Team. Additionally, the team installed integration suggestion boxes in the break rooms of the three buildings that house most CDIS staff. They also committed to holding regular "all hands" meetings with the section chief, where integration dialogue can occur.

Evaluation Questions

- Do staff members understand the section definition of integration?
- At what level are staff members engaged in the integration process?
- How will partners be engaged around integration?

Objective 3.1

By June 30, 2008, 100 percent of CDIS staff will understand North Carolina's definition of integration.

Strategies

- Isolate misunderstanding through survey filters and provide additional education for those groups.
- Orient new staff to integration via the CDIS Staff Orientation Manual.
- Periodically review comments/ suggestions and responses given at "all hands" meetings.

Objective 3.2

By June 30, 2008, identify ways to engage staff and partners in integration.

Strategies

- Solicit suggestions from staff on engaging partners.
- Contact the NACDD and other states for advice.
- Conduct a literature search on best practices.
- Survey staff and partners regarding their level of engagement and satisfaction with the integration process.

Methodology

The survey established a baseline for staff understanding of integration. The CDIS orientation manual includes information about integration and, as additional components of integration are adopted, the survey will capture staff attitudes, knowledge and behavior about the integration process.

Step 2: Describe the Program

Need: Integration is a concept that the CDC is addressing and that North Carolina embraced because of its potential to increase the reach and efficacy of our programs. The CDC will begin a new bundling pattern among chronic disease programs in the 2008-2009 fiscal year with the goal of eventually distributing funds to states through a cooperative agreement that includes BRFSS, comprehensive cancer, diabetes, heart disease, obesity prevention, and tobacco prevention. Development and implementation of this integration process and *Blueprint* will position North Carolina to respond to this call for proposals.

Expected Effects: A fully integrated CDIS will look much different from the current section. There will be formal COPs to jointly address common risk factors and settings. Working collaboratively will become the norm, and management and the environment in general will support the integration continuum. It is important to note that the highest level of integration desired by North Carolina is an integrated partnership, and not a merging of programs.

Activities: The Blueprint includes goals and strategies that establish a framework for integration. It also includes recommendations for current priority integration areas such as policy agenda, worksite initiatives and internal information technology, and outlines criteria for determining future priorities.

Resources: The Integration Design Team is the primary resource for writing the integration plan. A core Leadership Team drove the changes and edited the work submitted by other writing groups. The section currently supports several integration recommendations, particularly those involving intra-organizational communication. Tools such as an intranet and standard meeting minute templates will also exist within the next year or two.

Stage of Development: The *Blueprint* objectives and recommendations are in various stages of planning or implementation. Most of the recommendations for program integration are not currently in place, and the assessment of current communities of practice is ongoing. However, several strategies that emerged following the staff awareness/engagement survey have been implemented and will be evaluated annually. These efforts revolve around communication of the integration

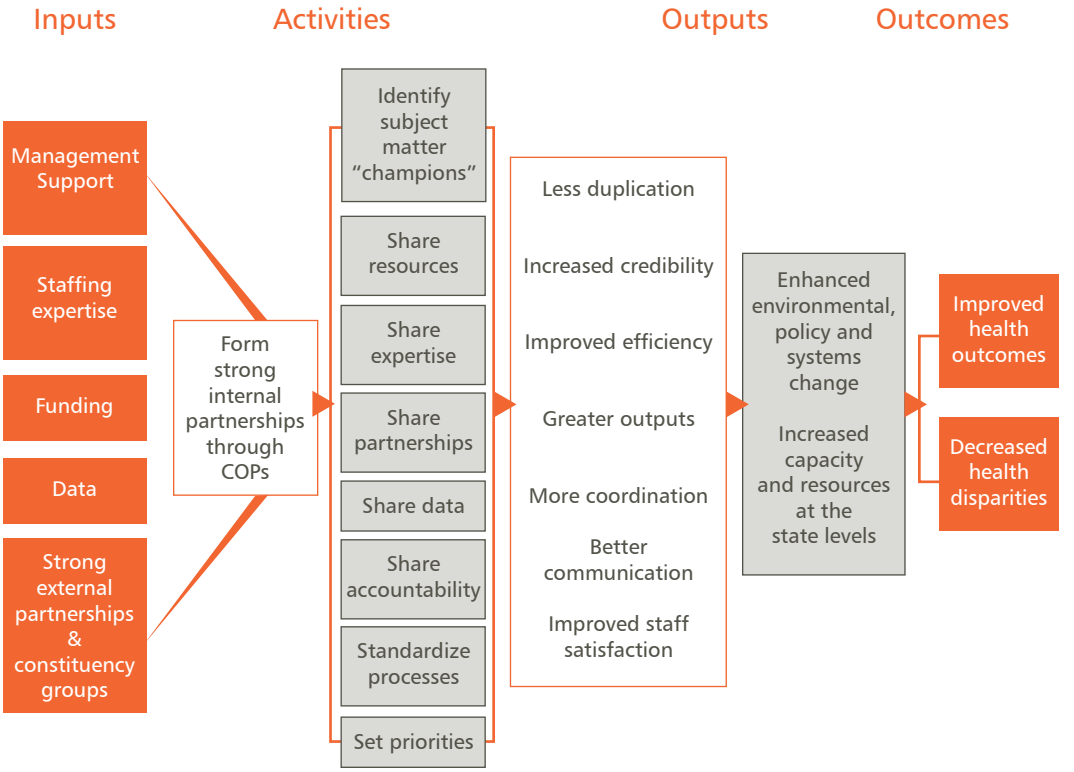
vision and keeping all staff informed about integration efforts.

Context: Integration is a logical step in the world of public health as federal funding is changing. Congress is more focused on results that can be measured within shorter periods than traditional population change. The health outcomes of chronic disease prevention and control efforts are generally seen over time, but with new accountability models in place, the work of states needs to demonstrate a solid link to results in shorter periods of time.

Integration may facilitate that cause and will give states the flexibility to re-direct funds and staff to maximize the systems targeted by state health departments.

The CDIS Integration Causal Roadmap or logic model is presented below.

Chronic Disease Program Integration "Causal" Roadmap



Evaluation Questions

- Is it possible to describe integration as it evolves?
- How will integration efforts be evaluated?

Objective 3.3

By December 31, 2007, establish a stable definition of integration.

Strategies

- Review past definitions to inform the new definition.
- Review literature and work from other states to learn how they define integration.
- Review survey feedback to determine how staff members view integration.

Objective 3.4

By August 31, 2008, evaluate the integration plan using indicators identified in the *Blueprint*.

Strategies

- Assign evaluation duties to an integration evaluation COP.
- Assess the evaluation plan periodically to ensure that it continues to align with the integration process.
- Produce an annual integration report outlining progress, barriers and new opportunities.

Methodology

Integration efforts will primarily be evaluated with a tool developed by Dr. Rebecca Gajda of the University of Massachusetts that was modified with permission to better fit the needs of the CDIS. The tool, the Strategic Alignment Formative Assessment Rubric (SAFAR), describes a continuum of integration from sharing information to merging.[47] North Carolina's integration evaluation workgroup modified the tool to rely on four, rather than five, levels of integration. Merging describes the highest level of integration in the original tool. This description is inconsistent with the basic tenant of integration, "do no harm to categorically funded projects."[45] The complete amended SAFAR tool is shown in Appendix E.

Step 3: Focus the Evaluation Design

Annual assessment of the integrated evaluation plan will allow CDIS management and program staff to measure the integration process. The evaluation will also allow for continuous quality improvement of the integration process. The Section Management Team is committed to writing an annual report describing integration outcomes and efforts.

Evaluation Question

- How is the CDIS progressing on integration?

Objective 3.5

By March 31, 2008, conduct an interim evaluation of integration, and conduct a final evaluation by August 31, 2008.

Strategies

- Assign individual work plan responsibilities for integration evaluation to integration evaluation workgroup team members.
- Expand membership on the integration evaluation workgroup.
- Train integration evaluation workgroup members in use of the SAFAR tool.

Methodology

The CDIS will measure the integration process using the amended SAFAR tool and will measure specific integration goals appropriately. Integration recommendations will be measured by the degree to which they are implemented. Attitudes, behavior and knowledge about integration will be measured with an annual survey, and the results of all of these methods will be reported in an annual written report that will be shared with all staff and partners.

Step 4: Gather Credible Evidence

The objectives related to goal 1 of the *Blueprint* – **Develop infrastructure to support integrated efforts** – will be measured via staff satisfaction surveys, key informant interviews, observation or report, and via an annual integration report. Indicators for this objective are shown below:

General Integration Indicators

- Development of orientation materials
- Completion of training regarding orientation materials
- Documented meeting minutes and agendas from all COP meetings
- Creation of the section intranet and/or share drive
- Utilization of the section intranet and/or share drive
- Average number of postings to the intranet per month
- Completion of the annual integration report
- Completion of the dissemination plan for the annual integration report

- Completion of the assets inventory and dissemination of results
- Identification of integration champions and notation of this in work plans
- Documentation that lessons learned were shared
- Number of integrated projects occurring during a specific time frame
- Assessment of the level of formality and tightness of existing COPs using the CoPAR tool
- Assessment regarding the need for new COPs using the SAFAR tool
- Documented rosters, agendas and minutes for COPs
- Notation of COPs that have been disbanded

Operations Indicators

- Development and posting of standardized meeting minute templates
- 80 percent staff satisfaction rate with meeting minute template
- Development, posting and implementation of a standardized CDIS collaborative agreement
- Coordinated purchases of large equipment
- Creation, posting and implementation of the CDIS Operations Manager's Training Manual
- Identification of a staff member or members to maintain and update the training manual

Human Resources Indicators

- Development and posting of a core list of alternate recruiting sites
- Number of candidates hired with demonstrated public health competencies
- Measurement of the level of employer satisfaction with these candidates
- Annual assessment and documentation of the level of current staff public health competencies
- Documentation of public health competency training
- Utilization of public health competency training
- Number of staff members who hold masters degrees
- Number of staff members obtaining public health certification or who are certified in diabetes or asthma education
- Number of staff members who are clinical professionals
- Development and implementation of a succession plan
- Measurement of the degree to which staff members feel recognized and appreciated
- Number of mentoring partnerships developed each year
- Satisfactory evaluation of the mentoring process
- Development of intrinsic rewards for mentoring
- Higher job satisfaction levels for new staff who are mentored versus those who are not
- Higher employee retention for staff involved in mentoring versus those who are not
- Development, posting and implementation of the CDIS Employee Orientation Manual
- Utilization of the orientation manual
- Identification of a staff member or members who will maintain and update the orientation manual
- Measurement of the usefulness of the orientation manual
- Development and implementation of collaborative work plans across programs

Information Technology Indicators

- Creation of a CDIS listserv
- Utilization of the section listserv
- Redesign and publication of the section website
- Number of monthly hits to the CDIS web site
- Identification of a staff member or members to maintain and update the CDIS web site
- 100 percent use of the corporate calendar system
- 100 percent access to web-based training
- 100 percent of staff members are trained per DPH Human Resource requirements within six months of hire
- Identification, use and rate of adoption of emerging technology(ies)

The indicators for goal 2 – **Prioritize and implement integrated programs and processes to support integration using evidence-based and best-practice models** – as related to COPs were all addressed under Goal 1 in the Human Resource section. Communities of Practice will be assessed using another tool developed by

Gajda et al, the Communities of Practice Assessment Rubric or CoPAR46 (Appendix G). The CDIS priority program recommendations will be assessed using the SAFAR tool to determine the level of integration displayed. Branches and programs will utilize current evaluation strategies to assess the effectiveness of priority recommendation projects. Success stories will be solicited from each integrated project for inclusion in the annual integration report. Specific indicators to address programmatic integration are listed below:

Epidemiology and Surveillance Indicators

- Development of a data source repository
- Development of a template to assist programs when applying for grants that includes funds for surveillance
- Standardization of criteria and priorities for BRFSS and CHAMP
- Development of an integrated health atlas
- Completion and accessibility of disease burden, risk factor, and injury and violence maps
- Development of a standardized format for burden documents and program reviews
- Number of branches/programs utilizing standardized burden document format
- Percent of staff satisfied with using the standardized burden document format

Policy Indicators

- Establishment of a policy workgroup to share policy initiatives and inform annual policy platform

- Percent of policy recommendations collected from branches/programs
- Number of chronic disease recommendations that become departmental priorities
- Percent of the Section Management Team that understands and contributes to policy initiatives
- Number of policies/legislation established that favor chronic disease and injury
- Number of educational materials distributed to legislators that promote chronic disease and injury prevention
- Funds generated from non-governmental agencies regarding chronic disease and injury

Community Health Assessment Indicators

- Establishment of a CDIS Community of Practice around community interests
- Number of integrated state-level trainings to inform public health programs about CHA
- Funds generated for Community Health Assessment within and outside of DPH
- Establishment of a link between county profiles and a web-based GIS system

Aging Indicators

- Number of new partnerships established to address physical activity, nutrition, and the prevention,

delay and management of chronic disease and injury in the population 60 and older

- Number of expanded partnerships in this same area
- Percent of partners expressing satisfaction with these partnerships
- Percent of seniors served by partnerships
- Number of aging initiatives within the CDIS
- Funds generated to sustain aging programs

Health Disparities Indicators

- Number of minorities hired in positions at all levels
- Number of minorities retained in positions at all levels
- Number of integrated interventions specifically designed for minorities
- Reach of integrated interventions specifically designed for minorities

Health Literacy Indicators

- Number of integrated interventions specifically designed for people at low literacy levels
- Percent of people satisfied with low-literacy materials
- Percent of local health departments receiving integrated training in health literacy
- Number of local health departments with staff trained in health literacy
- Number of CDI staff trained in health literacy
- Percent of local health departments that have adopted at least two CLAS standards

Social Marketing Indicators

- Number of culturally diverse integrated interventions
- Number of culturally diverse materials printed with input from multiple programs/branches
- Percentage of materials created in languages other than English with input from multiple programs/branches
- Percentage of interventions conducted in languages other than English with input from multiple programs/branches

Common Settings Indicators

- Number of integrated interventions in common settings
- Percent of staff agreeing that integrated interventions are more successful than individual program/branch interventions
- Percent of staff agreeing that integrated interventions extend their reach
- Percent of audience agreeing that integrated interventions are better coordinated than individual program/branch interventions

Step 5: Justify Conclusions

The integration plan relies on many evidenced-based strategies for coordination and an array of promising and best-practice evaluation strategies as described by the NACDD and a handful of states that have implemented integrated plans, particularly Washington and Arizona. The Integration Design Team and Section Management Team will conduct annual analysis, synthesis and interpretation of evaluation results. The evaluation results will also stimulate questions for the annual integration survey. The survey will contain basic core questions and new questions

based on the evaluation and the direction of integration efforts as they grow.

Evaluation Questions

- Are integration efforts being conducted using a mix of evidenced-based, best-practice and promising-practice strategies?
- Are integration efforts being sustained?
- Is the evaluation a reliable indicator of the integration progress?

Objective 3.6

By December 31, 2007, include all integration practices in N.C's integration plan.

Strategies

- Review integration strategies available from the NACDD.
- Review integration strategies from Washington and Arizona.

Objective 3.7

By August 31, 2008, evaluate integration efforts for sustainability.

Strategies

- Implement an economic evaluation of integration.
- Survey staff on attitudes regarding sustainability of integrated efforts.
- Perform a needs assessment on integration efforts.

Objective 3.8

By August 31, 2008, publish an integration evaluation progress report.

Strategies

- Convene champions to discuss progress and evaluation data.

- Require COPs to submit progress reports.
- Compile the information, post on the intranet or share drive, and disseminate to DPH leadership and key partners.

Methodology

Chronic disease integration is an emerging concept that includes best-practice and promising-practice recommendations more so than evidenced-based strategies. However, North Carolina strives for the highest level of credibility and therefore plans to identify and utilize evidenced-based strategies as they become available. All strategies will be categorized and described in the annual integration report.

Since integration is an evolving concept, some efforts may not be sustainable. The integration and evaluation plans are flexible enough to eliminate or adapt program recommendations that do not prove successful and to continue those that do. As the primary funding source for chronic disease and injury programs in North Carolina, the CDC and its commitment to integration will certainly enhance the likelihood of program sustainability in the future.

Step 6: Ensure Use and Share Lessons Learned

Evaluation is considered a critical step in any intervention conducted by the CDIS. Evaluation of the integrated plan is just as critical. The Blueprint evaluation will

be used to ensure that integration is progressing as outlined in the plan. It will also help program coordinators determine the success of integration efforts. Finally, the evaluation will be useful to the Section Management Team in determining how to expand and sustain integration.

Evaluation Questions

- How will the Blueprint lessons learned be shared?
- How will we ensure that the evaluation plan is used?

Objective 3.9

By October 31, 2008 share the integration progress report with staff, partners, DPH leadership and the CDC.

Strategies

- Publish the report on the CDIS website.
- Discuss the report in Section Management and Quality Teams as well as other key COPs.
- Identify opportunities to share the N.C. integration model.

Methodology

The Quality Team minutes will reflect dissemination of the integration plan, and the annual integration report will contain a section dedicated to lessons learned. Evidence of the integrated evaluation plan use will be shared via the annual integration report.

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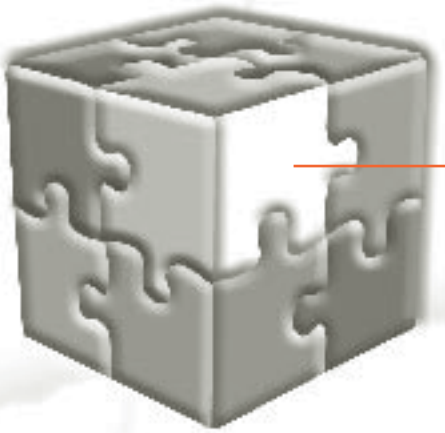
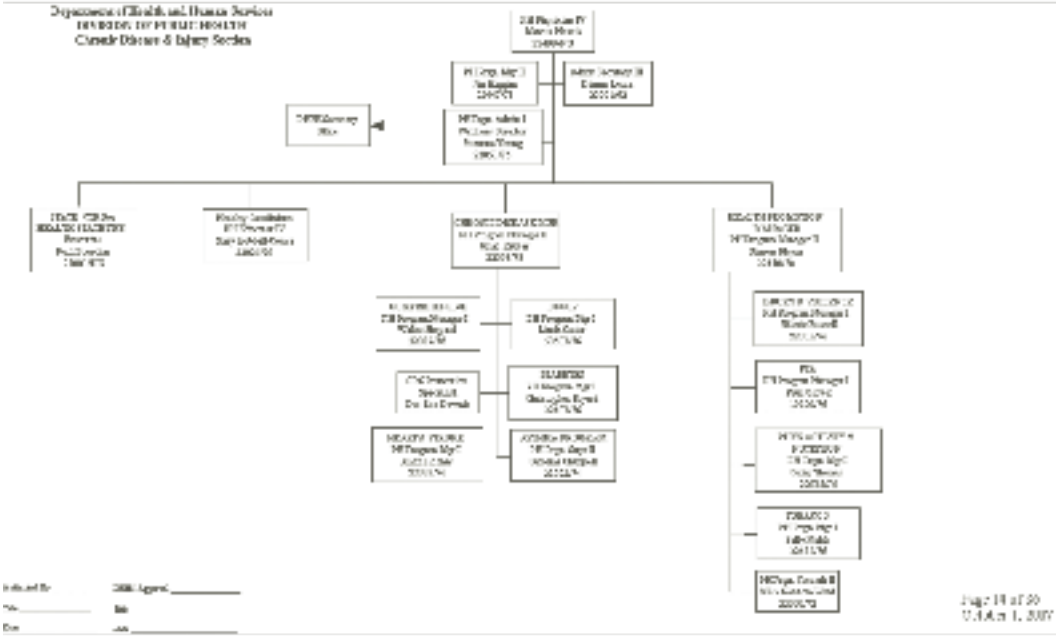


APPENDICES

APPENDIX A

Organizational Structure for the North Carolina Chronic Disease and Injury Section



APPENDIX B

Chronic Disease and Injury Section Integration Awareness Survey

August 2007

1. How aware are you of integration efforts within the Chronic Disease and Injury Section?	Response Percent	Response Count
Very aware	23.8%	31
Aware	28.5%	37
Somewhat aware	**33.1%**	43
Not aware	14.6%	19
answered question		**130**
skipped question		0

2. To what extent are you involved in the development of the Chronic Disease Section's Integration Plan?	Response Percent	Response Count
I am very involved	6.3%	6
I am involved	20.0%	19
I am somewhat involved	20.0%	19
I am not involved	**53.7%**	51
answered question		**95**
skipped question		35

3. The following are a list of possible benefits of integration for the Chronic Disease and Injury Section. Please indicate how likely you think integration will be to result in each benefit below.

	Very likely	Likely	Somewhat likely	Not likely	No opinion	Response Count
Increased efficiency	15.4% (14)	**44.0% (40)**	33.0% (30)	4.4% (4)	3.3% (3)	91
Increased effectiveness	16.5% (15)	**44.0% (40)**	29.7% (27)	3.3% (3)	6.6% (6)	91
Greater diversity in perspectives, creativity, and new ideas	28.9% (26)	**36.7% (33)**	23.3% (21)	4.4% (4)	6.7% (6)	90
Improved morale and staff satisfaction (More fun!)	12.2% (11)	26.7% (24)	**35.6% (32)**	15.6% (14)	10.0% (9)	90
Access to new leaders and policymakers	13.5% (12)	**46.1% (41)**	22.5% (20)	9.0% (8)	9.0% (8)	89
Increased credibility with external and internal stakeholders	19.8% (18)	**40.7% (37)**	26.4% (24)	5.5% (5)	7.7% (7)	91
Ownership for common issues/ initiatives	14.3% (13)	**44.0% (40)**	25.3% (23)	8.8% (8)	7.7% (7)	91
Increased resources for the Section	18.7% (17)	**39.6% (36)**	26.4% (24)	7.7% (7)	7.7% (7)	91
Better communication	27.5% (25)	**37.4% (34)**	27.5% (25)	4.4% (4)	3.3% (3)	91
Critical mass support internally and externally for shared concerns and issues	17.6% (16)	**40.7% (37)**	29.7% (27)	2.2% (2)	9.9% (9)	91
Stronger policy platform	18.9% (17)	**47.8% (43)**	22.2% (20)	3.3% (3)	7.8% (7)	90
Increased access to internal expert resources	26.4% (24)	**38.5% (35)**	28.6% (26)	3.3% (3)	3.3% (3)	91
Less duplication of work	22.0% (20)	**33.0% (30)**	31.9% (29)	8.8% (8)	4.4% (4)	91
More opportunities for staff to contribute due to more shared decision making	16.5% (15)	30.8% (28)	**33.0% (30)**	11.0% (10)	8.8% (8)	91
Standardized operational procedures (i.e. hiring procedures, training, orientation, fiscal management)	22.5% (20)	**42.7% (38)**	19.1% (17)	7.9% (7)	7.9% (7)	89
					Please list any other benefits if integration.	8
					answered question	**91**
					skipped question	**39**

4. The following are a list of possible barriers to integration for the Chronic Disease and Injury Section. Please indicate how problematic you think each item will be for achieving integration in the section.

	Very problematic	Problematic	Somewhat problematic	Not problematic	No opinion	Response Count
Fear of change	18.6% (16)	**30.2% (26)**	29.1% (25)	15.1% (13)	7.0% (6)	86
Fear of losing program identity	20.9% (18)	**30.2% (26)**	27.9% (24)	16.3% (14)	4.7% (4)	86
Time intensive upfront	14.0% (12)	**36.0% (31)**	30.2% (26)	12.8% (11)	7.0% (6)	86
Lack of Section-wide communication tools	18.1% (15)	19.3% (16)	**41.0% (34)**	13.3% (11)	8.4% (7)	83
Fear of funding being diverted	29.4% (25)	**30.6% (26)**	23.5% (20)	9.4% (8)	7.1% (6)	85
Uncertainty when working with new people	3.6% (3)	20.2% (17)	**41.7% (35)**	29.8% (25)	4.8% (4)	84
Lack of standardized forms, operations, and procedures	14.0% (12)	20.9% (18)	**37.2% (32)**	18.6% (16)	9.3% (8)	86
Lack of supportive environment	17.9% (15)	17.9% (15)	**35.7% (30)**	21.4% (18)	7.1% (6)	84
Lack of specific funding pool for new integration initiatives	22.4% (19)	**35.3% (30)**	18.8% (16)	11.8% (10)	11.8% (10)	85
Lack of understanding of concept of integration	12.0% (10)	28.9% (24)	**39.8% (33)**	14.5% (12)	4.8% (4)	83
Funding restrictions	22.1% (19)	30.2% (26)	**31.4% (27)**	5.8% (5)	10.5% (9)	86
Competing programmatic priorities	29.1% (25)	**31.4% (27)**	26.7% (23)	7.0% (6)	5.8% (5)	86
Personality conflicts	22.1% (19)	23.3% (20)	**29.1% (25)**	16.3% (14)	9.3% (8)	86
Less personal recognition	5.9% (5)	12.9% (11)	31.8% (27)	**38.8% (33)**	10.6% (9)	85
Physical location of staff	9.4% (8)	18.8% (16)	24.7% (21)	**42.4% (36)**	4.7% (4)	85
Fear of failure	3.6% (3)	16.7% (14)	25.0% (21)	**44.0% (37)**	10.7% (9)	84
Potential loss of program constituencies	5.9% (5)	23.5% (20)	**40.0% (34)**	18.8% (16)	11.8% (10)	85
					Please list any other barriers to integration.	15
					answered question	**87**
					skipped question	**43**

5. How appropriate is integration for the following areas?						
	Very appropriate	Appropriate	Somewhat appropriate	Not at all appropriate	No opinion	Response Count
Fiscal Integration	18.5% (15)	**38.3% (31)**	19.8% (16)	8.6% (7)	14.8% (12)	81
Human Resources	**33.8% (27)**	31.3% (25)	17.5% (14)	2.5% (2)	15.0% (12)	80
Information Technology	**48.1% (39)**	30.9% (25)	8.6% (7)	3.7% (3)	8.6% (7)	81
Epidemiology	**38.8% (31)**	31.3% (25)	17.5% (14)	1.3% (1)	11.3% (9)	80
State and Local Partnerships	**40.7% (33)**	28.4% (23)	21.0% (17)	0.0% (0)	9.9% (8)	81
Policy	**39.5% (32)**	**39.5% (32)**	13.6% (11)	2.5% (2)	4.9% (4)	81
Health Disparities	**43.2% (35)**	30.9% (25)	13.6% (11)	0.0% (0)	12.3% (10)	81
Community Mobilization	**36.7% (29)**	32.9% (26)	19.0% (15)	0.0% (0)	11.4% (9)	79
Social Marketing	29.6% (24)	**43.2% (35)**	14.8% (12)	1.2% (1)	11.1% (9)	81
Faith Initiatives	28.4% (23)	**33.3% (27)**	18.5% (15)	3.7% (3)	16.0% (13)	81
Aging Initiatives	31.3% (25)	**37.5% (30)**	11.3% (9)	1.3% (1)	18.8% (15)	80
Worksites	**32.1% (26)**	30.9% (25)	16.0% (13)	4.9% (4)	16.0% (13)	81
Community Health Assessment	**44.4% (36)**	35.8% (29)	9.9% (8)	1.2% (1)	8.6% (7)	81
Systems Change in Health Care Settings	22.8% (18)	**40.5% (32)**	17.7% (14)	1.3% (1)	17.7% (14)	79
Evaluation	32.1% (26)	**39.5% (32)**	14.8% (12)	3.7% (3)	9.9% (8)	81
					Other (please specify)	7
					answered question	**81**
					skipped question	**49**

6. What would a successfully integrated Chronic Disease and Injury Section look like to you? Please describe.	
answered question	41
skipped question	89

7. Please indicate how important each of the following is to your level of support for integration in the Chronic Disease and Injury Section.

	Very important	Important	Somewhat Important	Not important	Response Count
Having more information and/ or a better understanding of the concept	28.8% (23)	**43.8% (35)**	18.8% (15)	8.8% (7)	80
Gaining a better understanding of the benefits of integration	31.6% (25)	**36.7% (29)**	20.3% (16)	11.4% (9)	79
Additional recognition for my program	19.5% (15)	27.3% (21)	**32.5% (25)**	20.8% (16)	77
Opportunities for additional funding for my program	**40.5% (32)**	35.4% (28)	19.0% (15)	5.1% (4)	79
The opportunity to be involved in integration efforts	22.8% (18)	**45.6% (36)**	25.3% (20)	6.3% (5)	79
Having a forum for voicing questions and concerns about integration	38.8% (31)	**42.5% (34)**	15.0% (12)	3.8% (3)	80
Increased opportunity to participate in drafting the integration plan and implementing integration	19.0% (15)	**35.4% (28)**	32.9% (26)	12.7% (10)	79
Please share anything else that would affect your level of support for integration.					13
answered question					80
skipped question					50

8. Optional: Please indicate where you work. Check all that apply.			
		Response Percent	Response Count
Forensic Tests For Alcohol		7.6%	6
Cancer Prevention and Control		12.7%	10
Diabetes Prevention and Control		5.1%	4
Heart Disease and Stroke Prevention		6.3%	5
Injury and Violence Prevention		10.1%	8
Office of Healthy Carolinians		5.1%	4
Physical Activity and Nutrition/Arthritis		16.5%	13
Section Office including Social Marketing, Refugee Health and Worksite Wellness Director		6.3%	5
The NC Asthma Program		2.5%	2
The State Center for Health Statistics		12.7%	10
Tobacco Prevention and Control		**22.8%**	18
	Other (please specify)		3
	answered question		**79**
	skipped question		51

9. Optional: Please indicate your position:			
		Response Percent	Response Count
Member of Section Management Team		10.8%	9
Staff		**89.2%**	74
		answered question	**83**
		skipped question	47

APPENDIX C

Glossary of Terms

Integration: Working across programmatic boundaries in formally structured groups to reach mutual goals. In these groups, programs contribute expertise and resources and share accountability.

Integration Champion: An individual who is very aware of integration practices in the section and who actively pursues work on integrated projects. These individuals serve as a source of information about integration and can be a resource for staff who have questions or concerns.

Communities of Practice: Groups that are related either by function, such as an entire branch that is committed to tobacco use prevention and cessation or by practice, such as the epidemiologist within that branch.

Boundary Spanner: Someone within a community of practice who is a part of more than one group. For example, the social marketing consultant for the branch is a part of the Social Marketing Matrix team and is also a part of the branch.

Constellation of Communities of Practice: A map that shows how all of the section works within its communities of practice.

APPENDIX D

Frequently Asked Questions about CDIS Administrative and Programmatic Integration in North Carolina

October 2007

1. What does integration mean for the Chronic Disease and Injury Section?

Integration means working across programmatic boundaries in formally structured groups to reach mutual goals. In these groups, programs contribute expertise, resources and share accountability.

2. What is the purpose of integration? Why are we doing this?

The purpose of integration is to strategically position ourselves as national leaders on integration in order to maximize our resources and meet our shared goals. Because resources are becoming more limited, the section recognized the importance of taking proactive steps to meet the challenges we will face in the future. New CDC requirements call for program integration, and in response to that, we are undertaking this initiative to ready ourselves for changes.

3. If we integrate programs, will people lose their jobs?

The intent of integration is not for people to lose their jobs. Integration will bring some changes, including the possibility of a shift in job roles or responsibilities. As of right now, we do not know the extent of the changes that integration will bring, but the reason for undertaking this process is not to eliminate jobs.

4. Who will be expected to assume the responsibility for activities that cut across the branches? How will this be decided/assigned? Will this work be included in my job description and annual work plan?

Work associated with cross-branch integrated activities will be assigned to experts within branches who would best fit the role. For example, a project focused on comparative data from two branches might require epidemiologists from different branches to work together, while a project to coordinate efforts of two community-based programs might require the expertise of program managers. The integrated groups that will form to reach shared goals are called communities of practice. Communities of practice give the groups a formal structure that outlines individual roles and responsibilities to help ensure accountability. Individuals who are very aware of integration practices in the section and who actively pursue work

on integrated projects are called champions. A champion will often be the coordinator of a community of practice. Initial decisions of who will be designated project responsibilities and assigned to communities of practice will be determined by branch and program heads and their staff.

Integration is not about making more work, but instead is a shift in the way we think about getting our work done. Work plans will be revised during review periods to reflect a section-wide move towards integration and to give staff the opportunity to focus on goals that support collaborative work. Any substantive changes in work will be negotiated and included as work plans are developed or require revisions throughout the year.

5. How will integration benefit me, my branch or my program?

Section staff felt that the most likely benefits of integration will be increased access to internal expert resources, increased credibility with external and internal stakeholders, better communication and increased efficiency. Section management agrees that these will be benefits and also views the following as benefits of integration: increased resources for the section, improved staff satisfaction, and better business practices through improved operational procedures.

6. Does integration mean less funding for my program?

For now, integration does not mean less funding. Federal funding is to remain level and committed to its current categorical programs. This may change in the future.

7. Are there section resources dedicated to this process?

Integration is of the highest importance to section management. While there are currently no additional dollars available for integration projects, a tremendous amount of section time and energy are being dedicated to this process. Initial integration initiatives may need to be funded using existing resources, while programs have the opportunity to include integration-focused projects and funding into their federal and state budget requests. Integration activities eventually may also free up funds to be used for other purposes.

8. How will priorities be set?

The Section Management Team will prioritize which issues to integrate based on input from the Section Integration Design Team and the Quality Team, using established criteria. Branch heads have been encouraged to seek input on integration from staff, as necessary, through branch

meetings. Employees should also offer input to any individuals serving on the Design Team or Section Management Team for them to carry forward to the group. Suggestion boxes will be placed throughout the section to give all staff a place to ask questions and give input. These comments can be made anonymously.

9. What is the position of our national partners, e.g., CDC, regarding integration?

The National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) at CDC has stated that there is a center-wide movement to integrate national programs, where it makes sense. Integration is of the highest priority for Dr. Janet Collins, the NCCDPHP director. CDC hopes that integration will foster stronger innovation and better management of state chronic disease programs. In Fiscal Year 2009, the CDC has announced that Tobacco, Diabetes, and the Behavioral Risk Factor Surveillance System programs will have their grants combined to support the ideas of collaboration and integration. CDC is also encouraging all state chronic disease programs to work together. The agency will send letters of interest this fall to qualifying states and territories, inviting each to apply to be an integration demonstration state. States that receive funding from all specified CDC programs (Heart Disease and Stroke Prevention, Comprehensive Cancer Control Program, Arthritis, Physical Activity and Nutrition-Obesity, Tobacco, Behavioral Risk Factor Surveillance System, and Diabetes) will be eligible to apply. States may also need to have a CDC senior management official in place at their state health department. Currently, North Carolina does receive all necessary funding and has a CDC senior management official, Mac MacCraw, posted here at the Division of Public Health.

10. How do the Injury Prevention and Control and the Forensic Tests for Alcohol Branches fit into the integration process?

It is the hope of the section management that the Injury and Violence Prevention Branch and the Forensic Tests for Alcohol (FTA) Branch will benefit from the improved section-wide communication, increased efficiency of business services, and the opportunity to partner with chronic disease programs on common interests. In the future, these branches may find it beneficial to collaborate on specific issues where it makes sense; for example, Obesity and Injury have commonalities, or FTA and Tobacco might share lessons learned. Representatives from the FTA and IVP branches are working with the Section Integration Design Team.

11. How can we be assured that integration occurs, and how will it be tracked or monitored?

To assure that integration is happening and to understand the progress that we have made towards integration, a formal evaluation will be conducted. The evaluation's first phases will focus on looking at how familiar staff has become with the concept of integration. The second phase of the integration evaluation will focus on how successfully we are practicing integration in the section. The full draft of the evaluation plan is available and can be obtained by contacting a member of the Integration Design Team. In addition to the formal evaluation, an annual report will be written that details the section's progress towards integration and that guides the goals we hope to achieve in the future.

APPENDIX E

Chronic Disease & Injury Section Community of Practice Inventory

The "X" indicates membership

Program or Branch	Epi/Eval Team	Healthy Aging Team	Integration Design Team	Operations Team	PAN Obesity Same Page Team	Quality Team	Safety Committee	Section Management Team	School Health Matrix Team	Social Marketing Matrix Team	Workplace Wellness Team
Asthma Program	X			X	X	X	X	X	X		
Breast and Cervical Cancer	X	X	X	X	X	X	X	X			
Comprehensive Cancer		X		X	X	X	X	X		X	X
Diabetes Prevention and Control	X	X	X	X	X	X	X	X	X	X	X
Forensic Test for Alcohol*			X	X							
Healthy Carolinians				X	X	X	X	X	X		
Heart Disease and Stroke Prevention*	X		X	X		X	X	X			X
Injury and Violence Prevention	X	X	X	X	X	X	X	X	X		X
Physical Activity and Nutrition	X	X	X	X	X	X	X	X	X	X	X
State Center for Health Statistics	X		X	X			X	X			X
Tobacco Prevention and Control*	X		X	X		X		X	X	X	

Several branches/programs have multi-agency advisory groups with representation from across the section, which are not shown here. The purpose of this inventory is to show working groups that consist mostly of Division of Public Health staff.

*Interview to confirm team membership not conducted.

APPENDIX F

Modified Strategic Alignment Formative Assessment Rubric (SAFAR)

Level of Integration	Purpose	Strategies and Tasks	Leadership and Decision-Making	Interpersonal and Communication
Networking	Create a web of communication	Loose or no structure	Non-hierarchical	Very little interpersonal conflict
1	Identify and create a base of support	Flexible, roles not-defined	Flexible	Communication among all members infrequent or absent
	Explore interests	Few if any defined tasks	Minimal or no group decision making	
Cooperating	Work together to ensure tasks are done	Member links are advisory	Non-hierarchical, decisions tend to be low stakes	Some degree of personal commitment and investment
2	Leverage or raise money	Minimal structure	Facilitative leaders, usually voluntary	Minimal interpersonal conflict
	Identify mutual needs, but maintain separate identities	Some strategies and tasks identified	Several people form "go-to" hub	Communication among members clear, but may be informal
Partnering	Share resources to address common issues	Strategies and tasks are developed and maintained	Autonomous leadership	Some interpersonal conflict
3	Organizations remain autonomous but support something new	Central body of people	Alliance members share equally in the decision making	Communication system and formal information channels developed
	To reach mutual goals together	Central body of people have specific tasks	Decision making mechanism are in place	Evidence of problem solving and productivity

Integrating 4	Merge resources to create or support something new	Formal structure to support strategies and tasks is apparent	Strong, visible leadership	High degree of commitment and investment
	Extract money from existing systems/ members	Specific and complex strategies and tasks identified	Sharing and delegation of roles and responsibilities	Possibility of interpersonal conflict high
	Commitment for a long period of time to achieve short and long-term outcomes	Committees and sub-committees formed	Leadership capitalizes upon diversity and organizational strengths	Communication is clear, frequent and prioritized
				High degree of problem solving and productivity

*Modified with permission from the lead author. Modifications include dropping the last rubric category, which described a process of unifying, and changing the name of the fourth category from merging to integrating.

APPENDIX G

Community of Practice Collaboration Assessment Rubric (CoPAR)

Degree of Collaboration: Network → Professional Learning Community

	Dialogue	Decision-Making	Action	Evaluation
6 5	Agenda for group dialogue is pre-planned, prioritized, and documented. All members regularly meet face-to-face. Group dialogue is structured and focused on the examination and analysis of evidence related to practice and performance. Disagreements and controversy exist, are addressed and resolved "now" or as close to now as possible. Group member regularly involve and reaffirm shared purpose and essential outcomes.	All decisions are informed by group dialogue; process for making decisions is transparent and adhered to; group leaders/facilitators are purposefully selected and visible. Group consistently makes decisions about what individual and collective actions they will initiate, maintain, develop, and/or cease. Decisions are directly related to the central practice and purpose of the group.	Each member consistently takes specific action as a result of group decision-making; Member actions are coordinated and interdependent, complex/challenging, and directly related to the central practice and purpose of the group.	Each member systematically collects and analyzes quantitative and/or qualitative information about her/his practice and the effects of her/his practice on essential outcomes; evaluation findings are shared publicly and inform group dialogue and decision-making.
4 3	Agenda for group dialogue exists. Most group members regularly meet face-to-face; Process for dialogue tends to be improvisational, but the focus is usually related to making meaning of information about practice and performance; Group will occassionally invoke or reaffirm a shared purpose. Professional tension tends to be unrecognized or unresolved. Group will occassionally invole or reaffirm a shared purpose and essential outcomes.	Decisions are usually informed by group dialogue; decision-making process may be unstructured and/or lack tranpsarency; group leaders exist, but may not be purposefully selected or visible; Group periodically makes decisions about what practices they will initiate, maintain, develop, and/or cease; Decisions are generally related to the central practice and purpose of the group.	Each member takes action but not necessarily as a result of group decision-making; Group actions are somewhat coordinated and interdependent; actions may lack complexity or challenge, but are generally related to the central practice and purpose of the group.	Most members consider information about the effects of their practice and performance on essential outcomes, but minimal data is systematically collected, analyzed, or publicly shared. Group may rely on "hearsay," "anecdotes," or "recollections" as data to inform dialogue and decision-making.
2 1	Full attendance at meetings is rare or the group meets face-to-face sporadically. Agenda for group dialogue is not planned. Process for dialogue is entirely improvisational. Disagreements do not exist or are unrecognized. Some or most group members are not interested and/or hold disparate conception as to the purpose of the group. Team members may air disagreements privately after the meetings.	A process for making decisions is not transparent or does not exist. Decisions are minimally informed by group dialogue. Group leaders are not purposefully chosen or are not visible. Most decisions are unrelated to the central practice and purpose of the group.	Individuals take minimal action; group actions tend to be uncoordinated or involve very little challenge and/or complexity. Actions are typically unrelated to a shared purpose or essential outcomes.	Group members do not regularly collect or share information about their practice and effects of practice on essential outcomes.

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02/08